

## CENTRAL INTELLIGENCE AGENCY

## INFORMATION REPORT

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SECURITY INFORMATION

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SUBJECT	The Bulgarian Railway System	DATE DISTR.	2 April 1953
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This is UNEVALUATED Information

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.  
THE APPRAISAL OF CONTENT IS TENTATIVE.  
(FOR KEY SEE REVERSE)

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General Information (July 1951)

1. The Bulgarian Railways network covers a total of approximately 4,700 kilometers subdivided as follows:
  - a. 3,900 kilometers of standard-gauge railways; and
  - b. 800 to 900 kilometers of narrow-gauge railways.

The Sofia-Gyueshevo Line, via Radomir and Kyustendil (Spring 1950)

2. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are German-made and are 8 and 1/4 meters in length. The Sofia-Kyustendil section was constructed prior to 1920, while the Kyustendil-Gyueshevo section was completed in 1932. Four passenger trains run daily in each direction on this line.
3. The Sofia-Kyustendil line crosses the following bridges:
  - a. Bridge crossing the Struma River, an old bridge built at the time the line was put into operation, never underwent any major repairs, has the following characteristics:
    - (1) Location: 6 kilometers east of Pernik and 2 1/4 kilometers from the main station of Sofia;

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STATE	X	ARMY Ev	X	NAVY	X	AIR Ev	X	FBI		AEC		ORR Ev	X	
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(Note: Washington Distribution indicated by "X"; Field Distribution by "#".)

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- (2) Type: iron, girder, single-span;
- (3) Abutments: stone masonry;
- (4) Length: 36-40 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2.5 meters (in the spring, when the snow melts);
- (14) Low water mark: 1.2. meters; and
- (15) Slope of river banks: 45 degrees.

b. Bridge crossing the Struma River, an old bridge built at the time the railway was put into operation, never underwent any repairs, has the following characteristics:

- (1) Location: 5-5.5 kilometers west of Pernik;
- (2) Type: iron, girder, twin-span, each 18 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 45 meters;
- (5) Width: 8 meters;
- (6) Height above the river bed: 4.5 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 3 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 45 degrees.

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4. Six kilometers west of Pernik, the railway line runs through a section 150 meters long cut into sandstone rock. The walls of this cutting are a maximum of eight meters in height and have a 70-degree slope.

The Sofia-Petrich Line, via Radomir, Dupnitsa, Gorna Dzhumaya, and Sveti Vrach  
(Autumn 1950)

5. This line, estimated to be 172 kilometers in length, is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 8, 12, and 14 meters long and the cross-rails are 60 centimeters apart.

6. The Sofia-Dupnitsa section was constructed prior to 1920, and the Dupnitsa-Gorna Dzhumaya section was built between 1923 and 1925. The Gorna Dzhumaya-Petrich section, originally a narrow-gauge line 80 centimeters in width constructed between 1922 and 1928, was converted to standard gauge between 1943 and 1949, and slight changes were made in the route. Four passenger trains run daily in each direction on this line.

7. The Sofia-Petrich line crosses the following bridges:

a. Bridge crossing the Struma River, an old bridge built at the time the line was put into operation, never underwent any major repairs, has the following characteristics:

- (1) Location: 800 meters north of the Dupnitsa railway station;
- (2) Type: iron, girder, with four spans of equal length;
- (3) Abutments and piles: stone masonry, with pier-heads located upstream and downstream;
- (4) Length: 82 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 5 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2.5 meters (in the spring);
- (14) Low water mark: 40 centimeters; and
- (15) Slope of banks: 45 degrees.

b. Bridge crossing the Rila River, an old bridge constructed at the time the railway was put into operation, never underwent any repairs, has the following characteristics:

- (1) Location: 7-8 kilometers north of Gorna Dzhumaya;
- (2) Type: iron, girder, single-span;

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- (3) Abutments: stone masonry;
- (4) Length: 12 meters;
- (5) Width: 8 meters;
- (6) Height above the river bed: 5-5.5 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current of river: swift;
- (13) Slope of river bed: 20 degrees;
- (14) High water mark: 1.5 meters;
- (15) Low water mark: 40-50 centimeters; and
- (16) Slope of river banks: 70 degrees.

c. Bridge crossing the Stari Izvor (sic) River, constructed about 1945, has the following characteristics:

- (1) Location: 2-2.5 kilometers south of Gorna Dzhumaya;
- (2) Type: reinforced concrete, girder, single-span;
- (3) Abutments: concrete;
- (4) Length: 12-14 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 3.5-4 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: concrete;
- (9) Capacity: 2,200 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 1 meter;
- (14) Low water mark: 40 centimeters;
- (15) Slope of river banks: 70 degrees.

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d. Bridge crossing the Struma River, constructed about 1945, has the following characteristics:

- (1) Location: 700 meters south of the Oranovo (N 41-56, E 23-09) railway station;
- (2) Type: iron, girder, three spans each 15 meters in length, crossing the river diagonally;
- (3) Abutments and piles: concrete;
- (4) Length: approximately 55 meters;
- (5) Width: 2 meters;
- (6) Height above river bed: 8 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,200 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 70 degrees.

e. Bridge crossing the Struma River, constructed when the railway line was converted from narrow gauge to standard gauge (1943-1949), has the following characteristics:

- (1) Location: 800-900 meters north of the Breznitsa (N 41-45, E 23-07) railway station;
- (2) Type: reinforced concrete, girder, four spans, each 12 meters in length;
- (3) Piles and abutments: concrete;
- (4) Length: 64 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Capacity: 2,200 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;

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- (12) Current: slow;
- (13) High water mark: 1.5 meters;
- (14) Low water mark: 50 centimeters; and
- (15) Slope of river banks: 70 degrees.

f. Bridge crossing the Struma River, constructed when the railway line was converted from narrow gauge to standard gauge (1943-1949), has the following characteristics:

- (1) Location: 600 meters south of the General Todorov (N 41-27, E 23-17) railway station;
- (2) Type: reinforced concrete, girder, with two spans, each 14.5 meters in length;
- (3) Piles and abutments: concrete;
- (4) Length: 32 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6.5 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Capacity: 2,200 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: fairly swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 50-60 centimeters; and
- (15) Slope of river banks: 70 degrees.

8. There are no viaducts on the Sofia-Petrich railway line.

9. Starting at a point seven kilometers south of Sveti Vrach, and continuing for a distance of 10 kilometers, there are nine tunnels concerning [redacted] These tunnels vary from a minimum of 120 meters to a maximum of 600 meters in length. The majority of the tunnels are cut into sienite (sic) rock.

The Sofia-Caribrod Line, via Slivnitsa and Dragoman (July 1951)

10. This line is a standrad-gauge, single-track line, ordinarily traction is by steam engine. The rails are 12, 14, and 18 meters in length and were manufactured in Dusseldorf. This line was constructed between 1906 and 1910, and improved in 1950.

11. Passenger trains running on this line are as follows:

- a. The Sofia-Caribrod line; two trains each way daily;
- b. Sofia-Dragoman section: four trains each way daily (including the trains listed in Paras. 11 a.);

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- c. Sofia-Slivnitsa section: eight trains each way daily (including the trains listed in Paras 11 a. and b.); and
- d. Sofia-Kostinbrod (N 42-49, E 23-13) section: 12 trains daily each way (including the trains listed in Paras. 11 a., b., and c.).

The progressive increase in the frequency of trains is due to the need for transporting workers to and from Sofia.

12. The Sofia-Caribrod line runs over the following bridges:

- a. Bridge crossing the Vrúbnitsa River, constructed when the railway line was put into operation, has the following characteristics:
  - (1) Location: 7.5 kilometers from Kostinbrod, in the direction of Sofia;
  - (2) Type: reinforced concrete, girder, single-span, 12 meters in length;
  - (3) Abutments: stone masonry;
  - (4) Length: 15 meters;
  - (5) Width: 7 meters;
  - (6) Height above the river bed: 4.5 meters;
  - (7) Service paths: 80 centimeters wide, one on each side, paved with iron plates;
  - (8) Sides: masonry;
  - (9) Capacity: 2,700 kilograms per square centimeter;
  - (10) Mining: not known;
  - (11) Current: very slow;
  - (12) High water mark: 1.5 meters;
  - (13) Low water mark: 40-50 centimeters; and
  - (14) Slope of river banks: 50 degrees.
- b. Bridge crossing the Letnitsa River, constructed when the railway line was put into operation, has the following characteristics:
  - (1) Location: 1.5 kilometers from the Caribrod (N 43-01, E 23-47) railway station, in the direction of Dragoman;
  - (2) Type: iron, girder, single-span, 12 meters in length, diagonally crossing under a highway bridge;
  - (3) Abutments: stone masonry;
  - (4) Length: 13-15 meters;
  - (5) Width: 7 meters;
  - (6) Height above river bed: 4.5 meters;
  - (7) Service Paths: 80 centimeters wide, one on each side, paved with iron plates;

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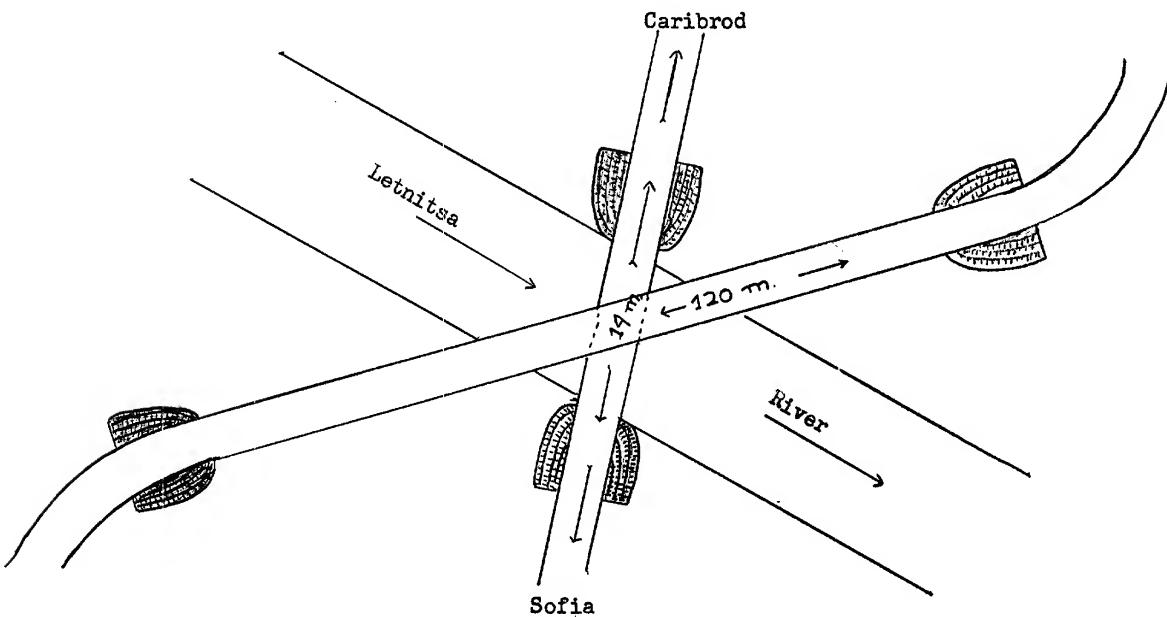
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- (8) Sides: iron railings;
- (9) Capacity: 2,700 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 30-40 centimeters; and
- (15) Slope of river banks: left bank, 70 degrees; right bank, 40 degrees.

The sketch below shows the position of the railway and highway bridges which cross the Letnitsa (sic) River.



11. There are no viaducts or tunnels on the Sofia-Caribrod railway line.

Sofia-Mezdra, via Svoge, Railway Line (July 1951)

12. This line is a standard-gauge, single-track line; ordinarily traction is by steam-engine. The rails are 14 and 18 meters in length. This line was constructed between 1906 and 1914; in 1950, new tracks were imported from Eastern Germany and laid, and miscellaneous repair work was completed.

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13. Passenger trains running on this line are as follows:

- a. Sofia-Vidin line: three trains each way daily;
- b. Sofia-Gorna Orykhovitsa line: eight trains each way daily;
- c. Sofia-Cherven Byrag section: one train each way daily; and
- d. Sofia-Svoge section: one train each way daily on "Fiat" railcars.

14. The Sofia-Mezdra line, via Svoge, runs over the following bridges:

- a. Bridge crossing the Vrăbnitsa River, constructed between 1906 and 1914, never underwent any major repairs, and has the following characteristics:
  - (1) Location: 10 kilometers from the main Sofia railway station;
  - (2) Type: iron, girder, single-span, 12 meters in length;
  - (3) Abutments: stone masonry;
  - (4) Length: approximately 14 meters;
  - (5) Width: 8 meters;
  - (6) Height above river bed: 3 meters;
  - (7) Service Paths: 1.5 meters wide, one on each side, paved with iron plates;
  - (8) Sides: iron railings;
  - (9) Capacity: 2,500 kilograms per square centimeter;
  - (10) Support: not known;
  - (11) Mining: not known;
  - (12) Current: slow;
  - (13) High water mark: 1.5-1.8 meters;
  - (14) Low water mark: 50-60 centimeters; and
  - (15) Slope of river banks: 40 degrees.
- b. Bridge crossing the Iskăr River, constructed between 1906 and 1914, never underwent any major repairs, has the following characteristics:
  - (1) Location: 300 meters south of the Vlado Trichkov (Lukovo) (N 42-53, E 23-24) railway station, 17.1 kilometers from the main station of Sofia;
  - (2) Type: iron, girder, five spans, each 13.5-14 meters in length;
  - (3) Abutments and piles: stone masonry;
  - (4) Length: approximately 80 meters;
  - (5) Width: 8 meters;
  - (6) Height above river bed: 10-11 meters;

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- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2-2.5 meters;
- (14) Low water mark: 60 centimeters; and
- (15) Slope of river banks: northern bank, 60 degrees; southern bank, 90 degrees.

c. Bridge crossing the Iskăr River, constructed between 1906 and 1914, never underwent any major repairs, has the following characteristics:

- (1) Location: 3 kilometers north of the Vlado Trichkov railroad station, 20.3 kilometers from the main Sofia railroad station;
- (2) Type: iron, girder, three spans, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 50-52 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7-8 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2-2.5 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 90 degrees.

d. Bridge crossing the Iskăr River, constructed between 1906 and 1914, never underwent any major repairs, has the following characteristics:

- (1) Location: 3.3 kilometers north of the Vlado Trichkov railroad station, 20.6 kilometers from the main Sofia railway station;

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- (2) Type: iron, girder, three spans, each 13-15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 47-50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 9 meters;
- (7) Service Paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) High water mark: 2.5 meters;
- (13) Low water mark: 80 centimeters; and
- (14) Slope of river banks: 85 degrees.

e. Bridge crossing the Iskúr River, has the following characteristics:

- (1) Location: 3.9 kilometers north of the Vlado Trichkov railroad station, and 21.5 kilometers from the main railway station in Sofia;
- (2) Type: iron, girder, three spans, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 52 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8-9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2.5-2.8 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 85 degrees.

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f. Bridge crossing the Iskur River, constructed between 1906 and 1914, never underwent any major repairs, has the following characteristics:

- (1) Location: one kilometer north of the Tompsin (N 42-55, E 23-23), railroad station; and 22.8 kilometers from the main Sofia railway station;
- (2) Type: iron, girder, two spans, each 24 meters in length;
- (3) Girders: the bridge has two continuous parabolical girders, one on each side, with a lower rectilinear support with multiple bracing;
- (4) Abutments and piles: stone masonry;
- (5) Length: approximately 52 meters;
- (6) Width: 8 meters;
- (7) Height above river bed: 10 meters;
- (8) Service paths: 1.5 meters wide, one on each side, paved with iron plates;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2.5-3 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 85 degrees.

g. Bridge crossing the Iskrets River, constructed between 1906 and 1914, never underwent any major repairs, has the following characteristics:

- (1) Location: 400 meters north of the Svoge railway station;
- (2) Type: iron, girder, single-span, 30 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: approximately 33 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 15 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: not known;
- (11) Mining: not known;
- (12) Current: swift;

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- (13) High water mark: 1.5 meters;
- (14) Low water mark: 30-40 centimeters; and
- (15) Slope of river banks: 50 degrees.

h. Bridge crossing the Bov River, built between 1906 and 1914, when a double track was laid, and widened about 1928, when six or seven tracks were laid, has the following characteristics:

- (1) Location: 50 meters south of the Bov (N 43-03, E 23-22) railway station, approximately 10 kilometers north of Svoge;
- (2) Type: iron, girder, single-span, 28-30 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: 30-32 meters;
- (5) Width: 40-45 meters (6 or 7 tracks);
- (6) Height above river bed: 8 meters;
- (7) Service paths: 2 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: not known;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 60 degrees.

i. Bridge crossing the Iskir River, constructed between 1906 and 1914, never underwent any major repairs, and has the following characteristics:

- (1) Location: 800 meters from the Eliseyna (N 43-06, E 23-30) railway station, and approximately 4.5 kilometers east of Zverino (N 43-06, E 23-33), in the direction of Svoge;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 45 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;

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- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 60 centimeters; and
- (15) Slope of river banks: 60 degrees.

j. Bridge crossing the Eliseyna River, constructed between 1906 and 1914, never underwent any major repairs, has the following characteristics:

- (1) Location: 400 meters from the Eliseyna (N 43-06, E 23-30) railway station, (approximately 4.5 kilometers east of Zverino (N 43-06, E 23-33), in the direction of Mezdra).
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 35 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: not known;
- (14) Low water mark: 50-60 centimeters; and
- (15) Slope of river banks: 60-65 degrees.

k. Bridge crossing the Lyutibrod River, constructed between 1906 and 1914, never underwent any major repairs, has the following characteristics:

- (1) Location: 300 meters west of the Lyutibrod (N 43-06, E 23-38) railway station, and approximately 7.5 kilometers west of Mezdra;
- (2) Type: iron, girder, twin-span, each 12 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 30 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 4 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 15-20 centimeters; and
- (15) Slope of river banks: 50 degrees.

15. There are no viaducts on the Sofia-Mezdra line. A schematic representation of the bridges and tunnels on the Sofia-Mezdra railway line are shown in Appendix B on page 95, 96, and 97.

16. The following tunnels are located on the Sofia-Mezdra railway line:

a. Tunnel No. 1, having the following characteristics:

- (1) Length: 1,100 meters;
- (2) Terrain: rocky, not very compact;
- (3) Axis of tunnel: rectilinear;
- (4) Slope: 10-12 degrees;

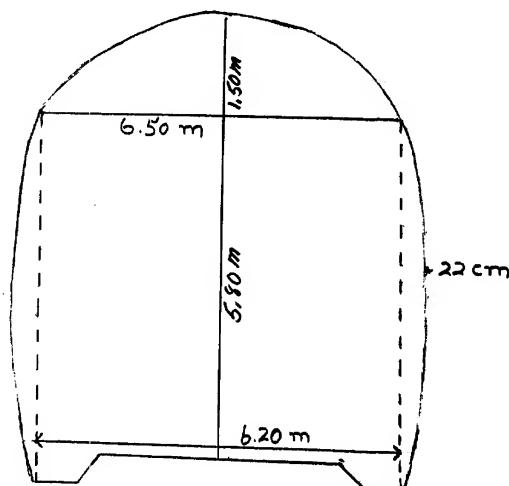
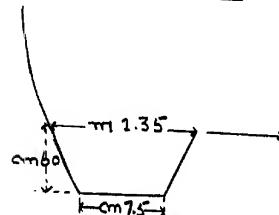
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- (5) Facing: roof and sides faced with freestone the whole length of tunnel;
- (6) Niches: 50 meters apart, alternately on either side of the tunnel with no facing.
- (7) Depth of niches: 3 meters;
- (8) Width of niches: 2.5 meters;
- (9) Height of niches: 2.5 meters;
- (10) Profile of tunnel: polycentric, as shown in the sketch below:

Drainage Channel Detail

b. Tunnel No. 2, having the following characteristics:

- (1) Length: 450 meters;
- (2) Terrain: compact rock;
- (3) Axis of tunnel: rectilinear;
- (4) Slope: 10 degrees;

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- (5) Facing: roof and sides faced in freestone only at the tunnel entrances, for a distance of approximately 20 meters; and
- (6) Niches and profile as in Tunnel No. 1.

c. Tunnel No. 3, having the following characteristics:

- (1) Length: 260 meters;
- (2) Terrain: compact rock;
- (3) Axis of tunnel: rectilinear;
- (4) Slope: 10 degrees;
- (5) Facing: roof and sides faced in freestone at the tunnel entrances, for a distance of approximately 20 meters; and
- (6) Niches and profile as in Tunnel No. 1.

d. Tunnel No. 4, having the following characteristics:

- (1) Length: 180 meters;
- (2) Terrain: compact rock;
- (3) Axis of tunnel: circular;
- (4) Slope: none;
- (5) Facing: roof and sides faced at the tunnel entrances, for a distance of approximately 20 meters; and
- (6) Niches and profile as in Tunnel No. 1.

e. Tunnel Nos. 5 and 6, respectively 220 and 80 meters long, have the following characteristics:

- (1) Terrain: compact rock;
- (2) Axis of tunnel: rectilinear;
- (3) Facing: roof and sides faced at the tunnel entrances, for a distance of approximately 20 meters; and
- (4) Niches and profile as in Tunnel No. 1.

f. Tunnel No. 7, having the following characteristics:

- (1) Length: approximately 500 meters;
- (2) Terrain: compact rock;
- (3) Axis of tunnel: circular;
- (4) Slope: none;
- (5) Facing: roof and sides faced at the tunnel entrances, for a distance of approximately 20 meters; and
- (6) Niches and profile as in Tunnel No. 1.

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g. Tunnels No. 8, 9, and 10, respectively 230, 130, and 80 meters long, have the following characteristics:

- (1) Terrain: compact rock;
- (2) Axis of tunnel: rectilinear;
- (3) Facing: roof and sides faced at the tunnel entrances, for a distance of 20-25 meters; and
- (4) Niches and profile as in Tunnel No. 1.

h. Tunnel No. 11, having the following characteristics:

- (1) Length: 150-170 meters;
- (2) Terrain: soft rock;
- (3) Axis of tunnel: rectilinear;
- (4) Facing: completely faced in freestone; and
- (5) Niches and profile as in Tunnel No. 1.

i. Tunnel No. 12, having the following characteristics:

- (1) Length: 60-70 meters;
- (2) Terrain: loose rock;
- (3) Axis of tunnel: circular;
- (4) Slope: none;
- (5) Facing: roof and sides faced in freestone for the entire length of the tunnel; and
- (6) Niches and profile as in Tunnel No. 1.

j. Tunnel No. 13, having the following characteristics:

- (1) Length: 250 meters;
- (2) Terrain: compact rock;
- (3) Facing: roof and sides faced at the tunnel entrances, for a distance of 20-25 meters;
- (4) Axis of tunnel: circular;
- (5) Slope: none; and
- (6) Niches and profile as in Tunnel No. 1.

k. Tunnel No. 14, having the following characteristics:

- (1) Length: 120 meters;
- (2) Terrain: compact rock;

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- (3) Axis of tunnel: rectilinear; and
- (4) Niches and profile as in Tunnel No. 1.
- 1. Tunnel No. 15, (90-100 meters long), No. 16 (150 meters long), No. 17 (230-250 meters long), No. 18 (110 meters long), No. 19 (110-120 meters long), No. 20 (150-170 meters long), and No. 21 (90 meters long), all have the following characteristics:

- (1) Terrain: compact rock;
- (2) Axis: rectilinear; and
- (3) Niches and profile as in Tunnel No. 1.

Mezdra-Vidin, via Vratsa, Boychinovtsi and Brusartsyi Line (May 1951)

- 17. This is a standard-gauge, single-track railway line; ordinarily, traction is by steam engine. The rails are 8 and 12 meters in length. This line was constructed between 1920 and 1925. During the years 1928-1939, the tracks were changed and the road-bed underwent major repair work for the entire length of the line. Passenger trains running on this line are listed in Para. 13 above.
- 18. The Mezdra-Vidin line crosses the following bridges:
  - a. Bridge crossing the Ogosta River, constructed between 1920 and 1925, never underwent any major repairs, has the following characteristics:
    - (1) Location: 1.5 kilometers north of the Boychinovtsi railway station;
    - (2) Type: iron, girder, twin-span, each 18 meters in length;
    - (3) Abutments and piles: stone masonry;
    - (4) Length: approximately 42 meters;
    - (5) Width: 8 meters;
    - (6) Height above river bed: 5 meters;
    - (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
    - (8) Sides: iron railings;
    - (9) Capacity: 2,500 kilograms per square centimeter;
    - (10) Support: equalizing bed type;
    - (11) Mining: not known;
    - (12) Current: slow;
    - (13) High water mark: 2.5 meters;
    - (14) Low water mark: 60-70 centimeters; and
    - (15) Slope of river banks: 50 degrees.

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b. Bridge crossing the Ziber River, constructed between 1920 and 1925, never underwent any major repairs, has the following characteristics:

- (1) Location: 15 kilometers from the Brusartsyi (N 43-40, E 23-04) railway station, in the direction of Boychinovtsi;
- (2) Type: iron, girder, twin-span, each 14-15 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: approximately 38 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 1.5 meters;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 50 degrees.

c. Bridge crossing the Archar River, constructed between 1920 and 1925, never underwent any major repairs, has the following characteristics:

- (1) Location: 1.2 kilometers south of the Aleksandrovo (N 43-45, E 22-44) railway station;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 45-48 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;

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- (12) Current: slow;
- (13) High water mark: 2-2.5 meters;
- (14) Low water mark: 60 centimeters; and
- (15) Slope of river banks: 50 degrees.

d. Bridge crossing the Slana Bara River, constructed between 1920 and 1925, never underwent any major repairs, has the following characteristics:

- (1) Location: 1.7-2 kilometers north of Vidbol (N 43-55, E 22-49);
- (2) Type: reinforced concrete, 6 or 7 spans;
- (3) Abutments and piles: stone masonry;
- (4) Length: 80-100 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 3.5 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: not known;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 1 meter;
- (14) Low water mark: practically no water;
- (15) Slope of river banks: 50 degrees.

19. There are no viaducts or tunnels on the Mezdra-Vidin railway line.

Boychinovtsi-Berkhovitsa, via Mikhaylovgrad, Railway Line (January 1951)

20. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 8, 12, and 14 meters in length. This line was built between 1930 and 1934. Its construction was backed by former Minister of Defense Angelov Petrov Rake, who contracted to do the work. The Boychinovtsi-Berkhovitsa line was originally constructed for transporting wood. Three passenger trains now run daily in each direction along this line, which is 56 kilometers in length.

21. The Boychinovtsi-Berkhovitsa line includes the following bridge which crosses the Ogosta River and was constructed between 1930 and 1934, and has the following characteristics:

- a. Location: 4 kilometers south of the Mikhaylovgrad railway station;
- b. Type: reinforced concrete, girder, twin-span, each 15 meters in length;
- c. Abutments and piles: concrete;

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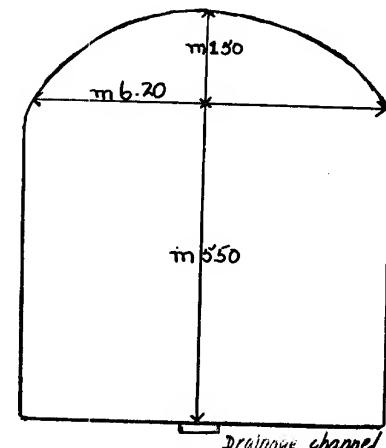
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- d. Length: 36-38 meters;
- e. Width: 8 meters;
- f. Height above the river bed: 5 meters;
- g. Service paths: 1.5 meters wide, one on each side, paved in cement;
- h. Sides: iron railings;
- i. Capacity: 2,200 kilograms per square centimeter;
- j. Support: equalizing bed type;
- k. Mining: not known;
- l. Current: moderate;
- m. High water mark: 1.8-2 meters;
- n. Low water mark: 60 centimeters; and
- o. Slope of river banks: 60 degrees.

22. There are no viaducts on the Boychinovtsi-Berkhovitsa railway line. This line includes a tunnel with the following characteristics:

- a. Length: 75 meters;
- b. Location: 700 meters south of the Borovtsi (N 43-19, E 23-11) railway station;
- c. Terrain: compact rock;
- d. Axis of tunnel: rectilinear;
- e. Facing: partial, at the entrances to the tunnel, for a distance of 15 meters;
- f. Roof: faced in freestone;
- g. Sides: faced in stone masonry;
- h. Slope: 16-17 degrees;
- i. Niches: none;
- j. Profile of tunnel: rectangular, surmounted by a semicircle.



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Brusartsyi-Lom, via Vasilovtsi, Line (January 1951)

23. This is a standard-gauge, single-track line; ordinarily, traction is by steam engine. The rails are 8 and 1½ meters in length. A spur line, 1.5 kilometers in length, runs from the railway station to the port of Lom.

24. The Brusartsyi-Lom line was constructed between 1920 and 1925. In 1938, the railway tracks were changed and major repair work was done to the road bed along the entire line. Three passenger trains run daily in each direction on this line.

25. The Brusartsyi-Lom line includes a bridge which crosses the Lom River, was constructed between 1920 and 1925, never underwent any major repairs, and has the following characteristics:

- a. Location: 1.5 kilometers north of the Vasilovtsi (N 43-43, E 23-07) railway station;
- b. Type: iron, girder, twin-span, each 15 meters in length;
- c. Abutments and piles: stone masonry;
- d. Length: approximately 36 meters;
- e. Width: 8 meters;
- f. Height above river bed: 7 meters;
- g. Service paths: 1.5 meters wide, one on each side, paved in wood;
- h. Sides: iron railings;
- i. Capacity: 2,500 kilograms per square centimeter;
- j. Support: equalizing bed type;
- k. Mining: not known;
- l. Current: slow;
- m. High water mark: 2.5 meters;
- n. Low water mark: 1 meter; and
- o. Slope of river banks: left bank, 50 degrees; right bank, 70 degrees.

26. There are no viaducts or tunnels on the Boychinvotsi-Berkhovitsa railway line.

The Mezdra-Pleven, via Cherven-Bryag, Line (June 1951)

27. This line, which is 118 kilometers in length, is a standard-gauge, single-track line, with ordinary traction by steam engine. The rails are 1½ and 18 meters in length.

28. The Mezdra-Pleven line was constructed prior to 1920. Between 1949 and 1950 the rails were changed and repairs were made to the road bed along the entire length of the line.

29. Passenger trains running on the Mezdra-Pleven line are described in Para. 12 above.

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30. The Mezdra-Pleven Line crosses the following bridges:

a. Bridge crossing the Iskăr River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 10-11 kilometers from Mezdra;
- (2) Type: Iron, girder, three span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 70 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: not known;
- (14) Low water mark: not known; and
- (15) Slope of river banks: 60 degrees.

b. Bridge crossing the Iskăr River, constructed prior to 1940, never underwent any major repairs, has the following characteristics:

- (1) Location: 800 meters approximately east of the railroad station of Roman (N 43-09, E 23-54);
- (2) Type: iron, girder, three-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 75 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;

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- (12) Current: swift;
- (13) High water mark: not known;
- (14) Low water mark: not known;
- (15) Slope of river banks: 70-80 degrees.

c. Bridge crossing the Iskúr River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 16 kilometers south of the Cherven-Bryag railway station, between the station of Tsirepits (sic) and Karlukovo (N 43-10, E 24-04);
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: moderate;
- (13) High water mark: not known;
- (14) Low water mark: not known;
- (15) Slope of river banks: right bank 85 degrees, left bank 50 degrees.

d. Bridge crossing Vit River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 4 kilometers east of the Yasen (N 43-25, E 24-32) railway station, located immediately west of a tunnel (see Para. 32 below);
- (2) Type: iron, girder, three-span, each 18 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 60-62 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known .

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- (12) Current: slow;
- (13) High water mark: 3 meters;
- (14) Low water mark: 1 meter; and
- (15) Slope of river banks: 60 degrees.

31. There are no viaducts on the Mezdra-Pleven railway line.
32. The Mezdra-Pleven line includes a tunnel with the following characteristics:
  - a. Length: 300 meters;
  - b. Location: 4 kilometers east of the Yasen railway station;
  - c. Terrain: compact rock;
  - d. Axis of tunnel: circular with no slope;
  - e. Facing: partial, at the entrances, for a distance of approximately 20 meters;
  - f. Roof: faced in freestone;
  - g. Sides: faced in stone masonry;
  - h. Niches: alternated on either side of the tunnel and located 50 meters apart; they are not faced;
  - i. Depth of niches: 3 meters;
  - j. Width of niches: 2.5 meters;
  - k. Height of niches: 2.5 meters; and
  - l. Profile: rectangular, surmounted by a semicircle (see Para. 22 above).

The Cherven-Bryag-Oryakhovo, via Byala Slatina-Turnava Line (May 1951)

33. This is an 80-centimeter, narrow-gauge, single-track line, with ordinary steam engine traction. The rails are 1 $\frac{1}{4}$  and 18 meters in length. This line was constructed between 1925 and 1930. Three passenger trains run daily in each direction.
34. The Cherven-Bryag-Oryakhovo line crosses the following bridges:
  - a. Bridge crossing the Iskur River, constructed between 1925 and 1930, never underwent any major repairs, has the following characteristics:
    - (1) Location: 5 kilometers from the Cherven-Bryag railway station, between it and Chunakovtsi (N 43-19, E 24-04);
    - (2) Type: iron, girder, four-span, each 15 meters in length;
    - (3) Abutments and piles: stone masonry;
    - (4) Length: approximately 75 meters;
    - (5) Width: 7 meters;
    - (6) Height above river bed: 10 meters;

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- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,200 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: moderately swift;
- (13) High water mark: 2.5 meters;
- (14) Low water mark: 80 centimeters;
- (15) Slope of river banks: 70 degrees.

35. There are no viaducts or tunnels on the Cherven - Bryag-Oryakhovo line.

Yasen-Somovit Line (May 1951)

- 36. This is a standard-gauge, single-track line, with ordinary steam-engine traction. The rails are 8 and 14 meters in length. This line was constructed between 1932 and 1934. Three passenger trains run daily in each direction.
- 37. The Yasen-Somovit railway line runs over the following bridges:
  - a. Bridge crossing the Vit River, constructed between 1932 and 1936, never underwent any major repairs, has the following characteristics:
    - (1) Location: 14 kilometers from Somovit (N 43-41, E 24-46);
    - (2) Type: iron, girder, twin-span, each 20 meters in length;
    - (3) Abutments and piles: stone masonry;
    - (4) Length: 50 meters approximately;
    - (5) Width: 8 meters;
    - (6) Height above river bed: 6 meters;
    - (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
    - (8) Sides: iron railings;
    - (9) Capacity: 2,500 kilograms per square centimeter;
    - (10) Support: equalizing bed type;
    - (11) Mining: not known;
    - (12) Current: slow;
    - (13) High water mark: 2.5 meters;
    - (14) Low water mark: 70 centimeters;
    - (15) Slope of river banks: 50 degrees.

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b. Bridge crossing the Vit River, constructed between 1932 and 1936, never underwent any major repairs, has the following characteristics:

- (1) Location: 11 kilometers south of Somovit;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 46-48 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2.5 meters;
- (14) Low water mark: 60-70 centimeters;
- (15) Slope of river banks: 50 degrees.

38. There are no viaducts or tunnels on the Yasen-Somovit railway line.

Pleven-Gorna Oryakhovitsa, via Levski Line

39. This a standard-gauge, single-track line, with ordinary steam-engine traction. The rails are 14 and 18 meters in length.

40. Pleven-Gorna Oryakhovitsa line was constructed prior to 1920. Between 1949 and 1950 major repairs were done to the roadbed along the entire line. Passenger trains running on this line are shown in Para. 13 above.

41. The Pleven-Gorna Oryakhovitsa line runs over the following bridges:

a. Bridge crossing the Osam River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 3 kilometers east of the Levski (N 43-22, E 25-08), railway station;
- (2) Type: iron, girder, three span, each 18 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 65 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6-7 meters;

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- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 3 meters;
- (14) Low water mark: 1 meter;
- (15) Slope of river banks: 50-60 degrees.

b. Bridge crossing the Rositsa River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 2 kilometers west of the Mikhaltsi (N 43-11, E 25-22) railway station;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 30 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6-7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: not known;
- (14) Low water mark: not known;
- (15) Slope of river banks: 50-60 degrees.

42. There are no viaducts or tunnels on the Pleven-Gorna-Oryakhovitsa railway line.

Levski-Svishtov Railway Line (Spring 1951)

43. This line is 58 kilometers in length, and is a single-track, standard-gauge line with ordinary steam-engine traction. The rails are 8 and 14 meters in length. This line was constructed between 1930 and 1934. Three passenger trains leave from and arrive at Levski daily.

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44. The Levski-Svishtov railway line includes a bridge which crosses the Osam River, was constructed between 1930 and 1934, never underwent any major repairs, and has the following characteristics:

- a. Location: 6 kilometers from Levski;
- b. Type: iron, girder, three-span, each 15 meters in length;
- c. Girders: the sides and top of the bridge are constructed of straight, continuous girders with a simple truss;
- d. Abutments and piles; stone masonry;
- e. Length: 50-55 meters;
- f. Width: 8 meters;
- g. Height above river bed: 12 meters;
- h. Service paths: 1.5 meters wide, one on each side, paved in wood;
- i. Capacity: 3,200 kilograms per square centimeter;
- j. Support: (Italian: "a rulli");
- k. Mining: not known;
- l. Current: very slow;
- m. High water mark: 3 meters;
- n. Low water mark: 1 meter;
- o. Slope of river banks: left bank 50 degrees, right bank 70 degrees.

45. There are no viaducts or tunnels on the Levski-Svishtov railway line.

Levski-Troyan, via Lovech, Line ( Spring 1951)

46. This is a standard-gauge, single-track line, with ordinary steam-engine traction. The rails are 8, 12 and 14 meters in length.

47. The Levski-Lovech section was constructed between 1932 and 1936. The Lovech-Troyan section was constructed between 1949 and the spring of 1950. The construction of this latter section was necessary for the transportation of wood. Four passenger trains run daily to and from Lovech and three passenger trains run daily to and from Troyan.

48. The Levski-Troyan railway line runs over a bridge which crosses the Osam River, was constructed between 1932 and 1937, never underwent any major repairs and has the following characteristics:

- a. Location: 1.5 kilometers southwest of the Letnitsa(N 43-18, E 25-04) railway station;
- b. Type: reinforced concrete, girder, twin-span, each 18 meters in length;
- c. Abutments and piles: concrete;
- d. Length: 44 meters;
- e. Width: 8 meters;

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25X1

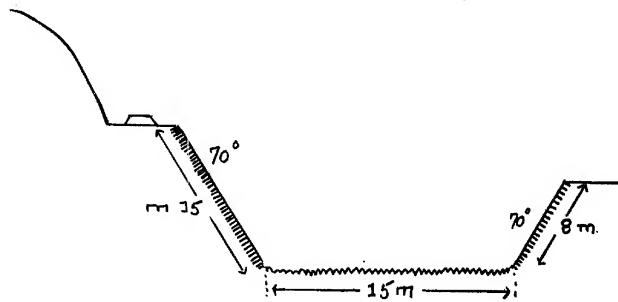
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- f. Height above river bed: 9 meters;
- g. Service paths: 1.5 meters wide, one on each side, paved in wood;
- h. Sides: iron railings;
- i. Capacity: 2200 kilograms per square centimeter;
- j. Support: on iron plates;
- k. Mining: not known;
- l. Current: slow;
- m. High water mark: not known;
- n. Low water mark: not known;
- o. Slope of river banks: 50 degrees.

49. There are no viaducts or tunnels on the Levski-Troyan line.

50. Starting at a point 8 kilometers north of Troyan, and running for a distance of approximately 1.5 kilometers, the railway line runs along an embankment on the west side of the river. The embankment has a slope of approximately 70 degrees, is reinforced in stone masonry. It is 15 meters high at the start and approximately 7 meters high at the center. The sketch showing this section of the Levski-Troyan railway line is reproduced below:



Gorna Oryakhovitsa-Ruse, via Vyala Line (Spring 1951)

51. This is a standard-gauge, single-track line, with ordinary steam-engine traction. The rails are 14 and 18 meters in length.

52. The Gorna-Oryakhovitsa-Ruse railway line was constructed prior to 1920. During 1949 and 1950 the rails were replaced and the entire road bed was repaired. There are four passenger trains running daily on this line.

53. The Gorna-Oryakhovitsa-Ruse railway line crosses the following bridges:

- a. Bridge crossing the Yantra River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

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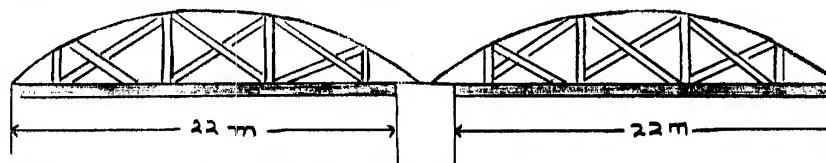
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25X1

- (1) Location: 800-900 meters from the Gorna Oryakhovitsa railway station, immediately south of the entrance to a tunnel;
- (2) Type: iron, girder, three-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 70-75 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: very slow;
- (13) High water mark: 2.5 meters;
- (14) Low water mark: 50 centimeters; and
- (15) Slope of river banks: 40 degrees.

b. Bridge crossing the Yantra River, constructed prior to 1920, never underwent any major repairs, and has the following characteristics:

- (1) Location: approximately 2.5 kilometers north of the Byala railway station;
- (2) Type: iron, girder, twin-span, each 22 meters in length;
- (3) Girders: the bridge is equipped with four parabolical girders and a simple truss; see sketch below:



- (4) Abutments and piles: stone masonry;
- (5) Length: 54-55 meters;
- (6) Width: 8 meters;
- (7) Height above river bed: 10-11 meters;
- (8) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: not known;
- (11) Mining: not known;
- (12) Current: moderately swift;

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- (13) High water mark: not known;
- (14) Low water mark: not known; and
- (15) Slope of river banks: 60 degrees.

54. There are no viaducts or tunnels on the Gorna Oryakhovitsa-Ruse railway line.

Gorna Oryakhovitsa-Stara Zagora, via Tryavna and Tulovo (Spring 1951)

55. This is a standard-gauge, single-track line, with ordinary traction by steam engine. The rails are 8, 12, and 14 meters in length.

25X1

56. This line was constructed prior to 1920. [redacted] the road bed was repaired. Four passenger trains run daily in each direction on this line.

25X1

57. The Gorna Oryakhovitsa-Stara Zagora line runs over the following bridges:

a. Bridge crossing the Yantra River, constructed prior to 1920, when the railway line was first opened, underwent major repairs in 1930 and has the following characteristics:

- (1) Location: 2,500 meters south of the Trapezitsa railway station at Turnovo (station located 3.2 kilometers north of Turnovo, immediately north of a tunnel);
- (2) Type: iron, girder, twin-span, each 22 meters in length;
- (3) Girders: the bridge is equipped with low rectilinear girders;
- (4) Abutments and piles: stone masonry;
- (5) Length: 55 meters approximately;
- (6) Width: 8 meters;
- (7) Height above river bed: 12 meters;
- (8) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 3 meters;
- (14) Low water mark: 80 centimeters;
- (15) Slope of river banks: 80-85 degrees.

d. Bridge crossing Yantra River, constructed prior to 1920, underwent major repairs in 1930, and has the following characteristics:

- (1) Location: approximately 400 meters south of the bridge described above, immediately south of a tunnel;

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- (2) Type: iron, girder, twin-span, each 25 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 60 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 11-12 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 3 meters;
- (14) Low water mark: 60-70 centimeters;
- (15) Slope of river banks: 70 degrees.

c. Bridge crossing the Drenovski River, constructed prior to 1920, never underwent any major repairs, and has the following characteristics:

- (1) Location: 6 kilometers southwest of the main station of Turnovo;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: very swift;
- (13) High water mark: 4 meters in the spring when the snow melts;
- (14) Low water mark: 20 centimeters;
- (15) Slope of river banks: 60 degrees.

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d. Bridge crossing the Tepovitsa (sic), constructed prior to 1920, when the railway was placed in operation, never underwent any major repairs, and has the following characteristics:

- (1) Location: approximately 1.2 kilometers north of the Tryavna (N 42-52, E 25-30) railway station;
- (2) Type: iron, girder, single-span, 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 22 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 20-30 centimeters;
- (15) Slope of river banks: 60 degrees.

e. Bridge crossing Tundzha River, constructed prior to 1920, when the railway line was put into operation, never underwent any major repairs, and has the following characteristics:

- (1) Location: approximately 3 kilometers south of the Tulovo (N 42-35, E 25-34), railway station, at a point where the railway line forms "S";
- (2) Type: iron, girder, three-spans, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 75 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;

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- (12) Current: very slow;
- (13) High water mark: 1.5-2 meters;
- (14) Low water mark: 40 centimeters;
- (15) Slope of river banks: 50 degrees.

f. Bridge crossing the Zmeyovo River, constructed prior to 1930, never underwent any major repairs, and has the following characteristics:

- (1) Location: 1 kilometer south of the Zmeyovo (N 42-30, E 25-37) railway station;
- (2) Type: arches in masonry, eight spans, each 11 meters in length;
- (3) Arches: in freestone;
- (4) Abutments and piles: stone masonry;
- (5) Length: 120 meters;
- (6) Width: 8 meters;
- (7) Height above river bed: 35 meters at the center;
- (8) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (9) Sides: iron railings;
- (10) Capacity: 2,500 kilograms per square centimeter;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: not known;
- (14) Low water mark: 20-30 centimeters;
- (15) Slope of river banks: 80 degrees.

58. There are no viaducts on the Gorna Oryakovitsa-Stara Zagora railway line.

59. The following tunnels are located on the Gorna Oryakovitsa-Stara Zagora railway line.

a. Tunnel No. 1 having the following characteristics:

- (1) Length: 120 meters;
- (2) Location: 300 meters south of the Trapezitsa railway station of Turnovo (station located 3.2 kilometers north of Turnovo);
- (3) Terrain: compact rock;
- (4) Axis of tunnel: rectilinear;
- (5) Facing: roof and sides of the tunnel are faced in freestone for a distance of 20-25 meters from the entrances;
- (6) Niches: 50 meters apart, alternately on either side of the tunnel;

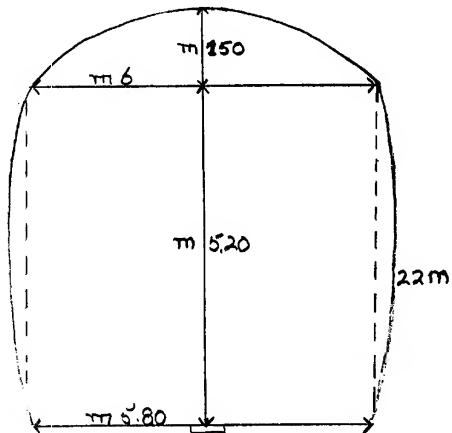
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- (7) Depth of niches: 3 meters;
- (8) Width of niches: 2.5 meters;
- (9) Height of niches: 2.5 meters; and
- (10) Profile of tunnel: polycentric, as shown in the sketch below:



b. Tunnel No. 2 having the following characteristics:

- (1) Length: 175 meters;
- (2) Location: 60 meters south of the tunnel described in Para. 59a.

This tunnel has all the characteristics of the tunnel described above.

c. Tunnel No. 3 having the following characteristics:

- (1) Length: 80 meters;
- (2) Location: 2 kilometers south of the Tsareva Livada (N 42-56, E 25-29).

This tunnel has all the characteristics of the tunnel described in Para. 59a above.

d. Tunnels No. 4 (90 meters), No. 5 (900 meters), No. 6 (800 meters), No. 7 (600 meters), No. 8 (800 meters), No. 9 (600 meters), No. 10 (600 meters) all have the following characteristics:

- (1) Terrain: compact rock;
- (2) Axis of tunnel: rectilinear;
- (3) Facing: partially faced in freestone for a distance of 20-25 meters from the tunnel entrances;
- (4) Niches: 50 meters apart, alternately on either side of the tunnel;
- (5) Depth of niches: 3 meters;
- (6) Width of niches: 2.5 meters;
- (7) Height of niches: 2.5 meters;
- (8) Profile of tunnel: polycentric, as shown in the sketch of Tunnel No. 1 (see Para. 59 above).

A schematic representation of tunnels 4 through 10 is shown in Appendix C on page 98.

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Gorna Oryakovitsa-Varna, via Popovo, Shumen, Kaspichan, and Provadiya (May 1951)

60. This is standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 14 and 16 meters in length.

61. The Gorna Oryakovitsa-Varna line was constructed prior to 1920. Between 1949 and 1950 major repairs were made to the road bed along the entire length of this line. Four passenger trains run daily in each direction on this line.

62. The Gorna Oryakovitsa-Varna line crosses the following bridges:

- Bridge crossing the Opaka River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:
  - Location: approximately 7 kilometers east of the Popovo (N 43-21, E 26-14) railway station;
  - Type: iron, girder, twin-span, each 15 meters in length;
  - Abutments and piles: stone masonry;
  - Length: 40 meters;
  - Width: 8 meters;
  - Height above river bed: 7 meters;
  - Service paths: 1.5 meters wide, one on each side, paved in wood;
  - Sides: iron railings;
  - Capacity: 2,500 kilograms per square centimeter;
  - Support: equalizing bed type;
  - Mining: not known;
  - Current: swift;
  - High water mark: not known;
  - Low water mark: 40 centimeters;
  - Slope of river banks: 50-60 degrees.
- Bridge (name unknown), constructed prior to 1920, never underwent any major repairs, has the following characteristics:
  - Location: approximately 5 kilometers east of the Turgovishte railway station;
  - Type: iron, girder, twin-span, each 14 meters in length;
  - Abutments and piles: stone masonry;
  - Length: approximately 25 meters;
  - Width: 8 meters;
  - Height above river bed: 5 meters;
  - Service paths: 1.5 meters wide, one on each side, paved in wood;

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- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 1.5-2 meters;
- (14) Low water mark: 50 centimeters;
- (15) Slope of river banks: 60 degrees.

c. Bridge crossing the river (name unknown), constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 5 kilometers east of the Shumen railway station;
- (2) Type: iron, girder, three-spans, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 55 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 30 centimeters;
- (15) Slope of river banks: 60 degrees.

d. Bridge crossing the river (name unknown), constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1.3 kilometers west of the Kaspichan (N 43-18, E 27-11) railway station;
- (2) Type: iron, girder, single-span, 22 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: 24 meters;
- (5) Width: 8 meters;

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- (6) Height above river bed: 6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) Highwater mark: 2 meters;
- (14) Low water mark: 30 centimeters; and
- (15) Slope of river banks: 50 degrees.

e. Bridge crossing the river (name unknown), constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1 kilometer north of the Provadiya railway station;
- (2) Type: iron, girder, single-span, 15 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: approximately 18 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 12 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 1.2-1.5 meters;
- (14) Low water mark: 50 centimeters;
- (15) Slope of river banks: 50 degrees.

f. Bridge crossing the Ana Dere River, constructed 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 300-400 meters southwest of Sindel (N 43-07, E 27-36) railway station;
- (2) Type: iron, girder, single-span, 20 meters in length;
- (3) Abutments: stone masonry;

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(4) Length: 22 meters;  
(5) Width: 8 meters;  
(6) Height above river bed: .8 meters;  
(7) Service paths: 1.5 meters wide, one on each side, paved in wood;  
(8) Sides: iron railings;  
(9) Capacity: 2,500 kilograms per square centimeter;  
(10) Support: equalizing bed type;  
(11) Mining: not known;  
(12) Current: very slow;  
(13) High water mark: 2.5-3 meters;  
(14) Low water mark: 1 meter; and  
(15) Slope of river banks: 50-60 degrees.

g. Bridge crossing the Devna Lake, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

(1) Location: 800 meters east of the Beloslav (N 43-10, E 27-42) railway station;  
(2) Type: iron, girder, four-spans, each 18-20 meters in length;  
(3) Abutments and piles: stone masonry;  
(4) Length: approximately 100 meters;  
(5) Width: 8 meters;  
(6) Height above river bed: 7-9 meters;  
(7) Service paths: 1.5 meters wide, one on each side, paved in wood;  
(8) Sides: iron railings;  
(9) Capacity: 2,500 kilograms per square centimeter;  
(10) Support: equalizing bed type;  
(11) Mining: not known;  
(12) Current: slow;  
(13) High water mark: 2 meters;  
(14) Low water mark: 1 meter; and  
(15) Slope of river banks: 50 degrees.

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63. There are no viaducts or tunnels on the Gorna Oryakovitsa-Varna railway line.

Kaspichan-Ruse, via Razgrad Line (May 1951)

64. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. This line was constructed between 1934 and 1936.

25X1

Kaspichan-Todor Ikonomovo Line (Spring 1951)

65. This is a standard-gauge, single-track line, approximately 65 kilometers in length; ordinarily traction is by steam engine. This line was constructed between 1944 and 1948.

Varna Caraomer (Negru-Voda) via Razdelna, and Dobrich (Autumn 1950)

25X1

66. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 8, 12, and 14 meters in length.

67. The Varna-Caraomer (Negru-Voda) line was constructed prior to 1920. Between 1949 and 1950 major repairs were made to the roadbed along the entire length of the line. Four passenger trains run daily in each direction.

68. The Varna-Caraomer (Negru-Voda) line crosses the following bridges:

a. Bridge crossing the Provadiya River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 700 meters northwest of the Razdelna (N 43-10, E 27-38) railway station;
- (2) Type: reinforced concrete, girder-type, twin-span, each 20 meters in length;
- (3) Abutments and piles: concrete;
- (4) Length: 48 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Support: "a rulli";
- (10) Capacity: 2200 kilograms per square centimeter;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 1 meter; and
- (15) Slope of river banks: 60 degrees.

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b. Bridge crossing the Devna River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 800 meters south of the Devnya (N 43-14, E 27-33) railway station;
- (2) Type: reinforced concrete, girder-type, three-span, each 15 meters in length;
- (3) Abutments and piles: concrete;
- (4) Length: 58 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 11 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Capacity: 2200 kilograms per square centimeter;
- (10) Support: "a rulli";
- (11) Mining: not known;
- (12) Current: moderately swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 50 centimeters; and
- (15) Slope of river banks: 60 degrees; stone masonry embankments line the sides of the river for a total distance of 400 meters; 200 meters upstream and 200 meters downstream.

69. There are no viaducts or tunnels on the Varna-Caraomer (Negru-Voda) line.

Shumen-Karnobat, via Zlokuchen, Smedovo, and Lyulyakovo (Spring 1951)

70. This is a single-track, standard-gauge line; ordinarily traction is by steam engine. The rails are 8, 12, and 1½ meters in length. This line was constructed between 1937 and 1939. No details are known concerning passenger trains running on the Shumen-Karnobat line.

71. The Shumen-Karnobat railway line crosses the following bridges:

- a. Bridge crossing the Kamchiya River, constructed between 1937 and 1939 when the line was put into operation, has the following characteristics:

- (1) Location: approximately 4.5 kilometers south of the Smedovo (N 43-04, E 27-02) railway station;
- (2) Type: reinforced concrete, girder-type, twin-span, each 25 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 58 meters;

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- (5) Width: 8 meters;
- (6) Height above river bed: 8-9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Capacity: 2200 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 60 degrees.

b. Bridge crossing the Luda Kamchiya River, constructed between 1937 and 1939 when the railway line was put into operation, has the following characteristics:

- (1) Location: approximately 2.3 kilometers south of the Lyulyakovo (N 42-52, E 27-06) railway station, at the southern entrance to a tunnel.
- (2) Type: reinforced concrete, girder-type, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Capacity: 2200 kilograms per square centimeter;
- (10) Support: "a rulli";
- (11) Mining: not known;
- (12) Current: very swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 40 centimeters;
- (15) Slope of river banks: left bank 80 degrees, right bank 60 degrees.

c. Bridge crossing the Zimnitsa River, constructed between 1937 and 1939 when the railway line was put into operation, has the following characteristics:

- (1) Location: approximately 1.5 kilometers south of the Komare (Lozarevo) (N 42-43, E 26-54) railway station;

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- (2) Type: reinforced concrete, girder-type, single-span, 25 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: approximately 27 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Capacity: 2200 kilograms per square centimeter;
- (10) Support: "a rulli";
- (11) Mining: not known;
- (12) Current: moderate;
- (13) High water mark: 1.5 meters;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 60 degrees.

72. There are no viaducts on the Shumen-Karnobat railway line.

73. The Shumen-Karnobat railway line includes a tunnel with the following characteristics:

- a. Length: 140 meters;
- b. Location: approximately 2.3 kilometers south of the Lyulyakovo railway station, immediately south of the bridge which crosses the Luda Kamchiya river, described in Para. 71 b above;
- c. Terrain: compact rock;
- d. Axis of tunnel: rectilinear;
- e. Slope: 12 degrees;
- f. Facing: partially faced in freestone for a distance of 15-20 meters from the tunnel entrances;
- g. Niches: alternately on either side, located 50 meters apart;
- h. Depth of niches: 3 meters;
- i. Width of niches: 2.5 meters;
- j. Height of niches: 2.5 meters; and
- k. Profile of tunnel: polycentric.

Zimnitsa-Dubovo, via Zhelyu Vcovoda, Sliven, and Tvarditsa (Spring 1951)

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74. This is a standard-gauge, single-track railway line, ordinarily traction is by steam engine. The rails are 8, 12, and 14 meters in length. This line was constructed between 1932 and 1937. Four passenger trains run daily in each direction between Zimnitsa and Dubovo. From Dubovo they proceed to Plovdiv, via Karlovo.

75. The Zimnitsa-Dubovo railway line crosses the following bridges:

a. Bridge crossing the river (name unknown), constructed between 1932 and 1937, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1.3 kilometers east of the Zhelyu Voyvoda (N 42-35, E 26-30) railway station;
- (2) Type: reinforced concrete, girder-type, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: approximately 40 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: reinforced concrete;
- (9) Capacity: 2200 kilograms per square centimeter;
- (10) Mining: not known;
- (11) Support: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 60 degrees.

b. Bridge crossing the Arsenevo River, constructed between 1932 and 1937, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 400 meters southeast of the Sliven railway station;
- (2) Type: iron, girder, twin-span, each 14 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 36 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;

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(9) Capacity: 2500 kilograms per square centimeter;

(10) Support: equalizing bed type;

(11) Mining: not known;

(12) Current: slow;

(13) High water mark: 1.5 meters;

(14) Low water mark: 60 centimeters; and

(15) Slope of river banks: 60 degrees.

c. Bridge crossing the Cumerna River, constructed between 1932 and 1937, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1.2 kilometers east of the Binkos (N 42-38, E 26-05) railway station;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 38 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 11 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 70 degrees.

d. Bridge crossing the Tvirditza River, constructed between 1932 and 1937, never underwent any major repairs, has the following characteristics:

- (1) Location: 900 meters west of the Tvirdisto (N 42-42, E 25-54) railway station;
- (2) Type: iron, girder, four-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 78 meters;
- (5) Width: 8 meters;

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- (6) Height above river bed: 9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 50 centimeters; and
- (15) Slope of river banks: 70-75 degrees.

e. Bridge crossing the Nikolaev River, constructed between 1932 and 1937, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1.5 kilometers east of the Dubovo (N 42-36, E 25-39) railway station;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 38 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 9-10 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 60 centimeters; and
- (15) Slope of river banks: 60 degrees.

76. There are no viaducts or tunnels on the Zimnitsa-Dubovo railway line.

Plovdiv-Tulovo, via Karlovo, Kalofer, and Kazanluk (Spring 1951)

77. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 8 and 12 meters in length. The Plovdiv-Tulovo was constructed between 1937 and 1939. Four passenger trains run daily in each direction on this line and proceed on to Zimnitsa.

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78. The Plovdiv-Tulovo railway line crosses the following bridges:

a. Bridge crossing the Maritsa River, constructed about 1905, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 2.5 kilometers from the Plovdiv railway station ;
- (2) Type: iron, girder, 23-24 spans, each 22 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 620 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 3000 kilograms per square centimeter;
- (10) Support: not known;
- (11) Mining: not known;
- (12) Current: very slow;
- (13) High water mark: 5 meters;
- (14) Low water mark: 40-50 centimeters; and
- (15) Slope of river banks: 55 degrees; stone masonry embankments line the river for a distance of 2.5 kilometers downstream and 300 meters upstream.

b. Bridge crossing the Pieshenik river, constructed between 1937 and 1939, never underwent any major repairs, has the following characteristics:

- (1) Location: 1.5 kilometers north of the Klimentinovo (N 42-10, E 25-43) railway station ;
- (2) Type: iron, girder, four-span, each 20 meters in length;
- (3) Abutments and piles: Stone masonry;
- (4) Length: 95 meters;
- (5) Width: 8 meters ;
- (6) Height above river bed: 5-6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: very swift (in the spring);
- (13) High water mark: 4 meters;
- (14) Low water mark: practically no water; and

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(15) Slope of river banks: 35 degrees.

c. Bridge crossing the Strema river, constructed between 1937 and 1939, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 3.5 kilometers north of the Banya (N 42-32, E 24-49) railway station;
- (2) Type: iron, girder, three-span, each 20 meters in length;
- (3) Abutments and piles: Stone masonry;
- (4) Length: 72 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 80 centimeters; and

(15) Slope of river banks: 35-40 degrees.

d. Bridge crossing the Sutsuruma river, constructed between 1937 and 1939, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 400 meters east of the Karlovo railroad station;
- (2) Type: iron, girder, twin-span, each 25 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 56-58 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 40 centimeters; and

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(15) Slope of river banks: 60-65 degrees.

e. Bridge crossing the Levski river, constructed between 1937 and 1939, never underwent any major repairs, has the following characteristics:

- (1) Location: 6 kilometers east of the Karlovo railway station, 600 meters west of the Botev (sic) station;
- (2) Type: iron, girder, twin-span, each 12 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 36 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10 meters;
- (7) Service paths: 1.2 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 20 centimeters; and
- (15) Slope of river banks: 40 degrees.

f. Bridge crossing the Asen River, constructed between 1937 and 1939, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 600 meters east of the Gabarevo (N 42-37, E 25-10) railway station;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 26 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2,500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: moderately swift;
- (13) High water mark: 2 meters;

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(14) Low water mark: 50 centimeters; and

(15) Slope of river banks: 40 degrees.

g. Bridge crossing the Maglitsa River, constructed between 1937 and 1939, never underwent any major repairs, has the following characteristics:

- (1) Location: 700 meters west of the Tulovo (N 42-34, E 25-33) railway station;
- (2) Type: iron, girder, three-span, each 12 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 40-42 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 3 meters;
- (14) Low water mark: 20-30 centimeters; and
- (15) Slope of river banks: 40 degrees.

79. There are no viaducts on the Plovdiv-Tulovo railway line.

80. The Plovdiv-Tulovo railway line includes a tunnel with the following characteristics:

- a. Length: 90 meters;
- b. Location: approximately 600 meters south of the Pesnopolis (N 42-29, E 24-49), railway station;
- c. Terrain: compact rock;
- d. Axis of tunnel: rectilinear;
- e. Slope: 12 degrees;
- f. Facing: none; and
- g. Profile: polycentric, with the same dimensions as the tunnel described in Para. 73 above.

81. The Plovdiv-Tulovo railway line runs through a series of cuttings which start at a point 2 kilometers east of the Botev (sic) railway station, situated approximately six kilometers west of the Karlovo railway station. These cuttings continue in the direction of Kalofer as follows:

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- a. Cutting No. 1, 800 meters in length, with walls which reach a height of 18 meters at the center of the cutting and gradually decrease down to the level of the railway line;
- b. Cutting No. 2, 1.5 kilometers in length, starting at a distance of 600 meters from the first cutting; the walls reach a height of 16 meters at the center of the cutting and gradually decrease down to the level of the railway line;
- c. Cutting No. 3, 3 kilometers in length, starting at a point 1.2 kilometers from the second cutting; the walls of the cutting reach a height of 18 meters at the center gradually decreasing to the level of the railway line; and
- d. Cutting No. 4, 500 meters in length, starting at a point 200 meters from the third cutting; the walls reach a height of 10 meters at the center of the cutting, gradually decreasing to the level of the railway line.

The terrain of these cuttings consists of compact rock. The walls are not faced and have a slope of approximately 45 degrees.

The Gorna-Makhala-Momina-Banya Line (Spring 1951)

82. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. This line was constructed between 1938 and 1940 and is 28 kilometers in length. Three trains run in each direction on this daily. This includes two or three bridges of a length inferior to ten meters; there are no viaducts or tunnels.

Plovdiv-Panagyurishte, via Golaymo Konare Line (Spring 1951)

84. This is a single-track, standard-gauge line; ordinarily traction is by steam engine; The rails are 8, 12, and 14 meters in length. This line was constructed between 1938 and 1940.

85. The Plovdiv-Panagyurishte Line crosses the following bridges:

- a. Bridge crossing the Peschanik River, constructed between 1938 and 1940, never underwent any major repairs, has the following characteristics:
  - (1) Location: 11 kilometers from the main railway station of Plovdiv;
  - (2) Type: iron, girder, four-span, each 15 meters in length;
  - (3) Abutments and piles: stone masonry;
  - (4) Length: 75 meters;
  - (5) Width: 8 meters;
  - (6) Height above river bed: 5-6 meters;
  - (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
  - (8) Sides: iron railings;
  - (9) Capacity: 2500 kilograms per square centimeter;
  - (10) Support: equalizing bed type;
  - (11) Mining: not known;
  - (12) Current: very swift; in the spring;

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- (13) High water mark: 4 meters;
- (14) Low water mark: practically no water; and
- (15) Slope of river banks: 35-40 degrees.

86. There are no viaducts or tunnels on the Plovdiv-Panagyurishte railway line. There are three passenger trains running daily in each direction on this line.

The Kocherinovo-Rilski Manastir, via Rila Line (Spring 1951)

87. This is a narrow-gauge, 80 centimeters in width line; it has a single-track; ordinarily traction is by steam engine. The rails are 8 meters in length. This line was constructed between 1928 and 1930.

88. The Kocherinovo-Rilski Manastir line crosses the Pastra River on a bridge which was constructed between 1928 and 1930, never underwent any major repairs, has the following characteristics:

- a. Location: approximately 1.5 kilometers east of the Pastra (N 42-07, E 23-13) railway station, situated approximately 7 kilometers east of Rila (N 42-08, E 23-08);
- b. Type: iron, girder, twin-span, each 15 meters in length;
- c. Abutments and piles: stone masonry;
- d. Length: 36 meters;
- e. Width: 7 meters;
- f. Height above river bed: 5 meters;
- g. Service paths: 80 centimeters wide, one on each side, paved in wood;
- h. Sides: iron railings;
- i. Capacity: not known;
- j. Support: not known;
- k. Mining: not known;
- l. Current: very swift;
- m. High water mark: not known;
- n. Low water mark: not known; and
- o. Slope of river banks: 50-55 degrees.

89. There are no viaducts or tunnels on the Kocherinovo-Rilski Manastir railway line.

The Krichim-Peshtera, via Bratsigovo Line (Spring 1951)

90. This line is 48 kilometers in length and is standard-gauge and single-track; ordinarily traction is by steam engine. The rails are 8, 12, and 14 meters in length. This line was constructed between 1936 and 1938 for the transportation of wood.

91. The Krichim-Peshtera railway line crosses the following bridges:

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a. Bridge crossing the Vucha River, constructed between 1936 and 1938, never underwent any major repairs, has the following characteristics:

- (1) Location: 2.5 kilometers south of the Golyamo Konare railway station, approximately 7 kilometers south of Krichim;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: concrete;
- (4) Length: 34 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 7 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 60 degrees.

b. Bridge crossing the Batasha River, constructed between 1936 and 1938, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 600 meters east of Peshtera;
- (2) Type: reinforced concrete, arch type, single-span, with a cord 35 meters;
- (3) Abutments: stone masonry;
- (4) Length: 45 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 22 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in cement;
- (8) Sides: iron railings;
- (9) Capacity: 3200 kilograms per square centimeter;
- (10) Mining: not known;
- (11) Current: swift;
- (12) High water mark: 3 meters;
- (13) Low water mark: 70-80 centimeters;
- (14) Slope of river banks: 70 degrees.

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92. There are no viaducts or tunnels on the Krichim-Peshtera railway line.

Plovdiv (South Station)-Asenovgrad Line (Spring 1951)

93. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. This line was constructed between 1928 and 1930 for the transportation of wood. Four passenger trains run daily in each direction.

94. The Plovdiv-Asenovgrad railway line includes two or three bridges less than ten meters in length. There are no viaducts or tunnels on this line.

Saran'ovo-Dobrinishta, via Kostandovo, Luzhene, Chepino, Yakoruda, Babyak, Razlog, and Bansko (Spring 1951)

95. This line, which is 124.2 kilometers in length, is a narrow-gauge, single-track line; ordinary traction is by steam engine. The rails are 8, 12, and 14 meters in length.

96. The Saran'ovo (N 42-13, E 24-06)-Yakoruda (N 42-02, E 23-40) section was constructed between 1925 and 1932. The Yakoruda-Dobrinishta (N 41-49, E 23-33) section was constructed between 1936 and 1940. The Dobrinishta-Nevrokop section (see para 149 below) Three passenger trains run daily on the Saran'ovo-Dobrinishta line. Two rail cars make two round trips daily on the Pazardzhik-Chepino (N 41-59, E 23-59) section.

97. Saran'ovo-Dobrinishta railway line crosses the following bridges (the first five of which are shown in the sketch included as Appendix D on page 99).

a. Bridge crossing the Elli-Dere River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: 600 meters south of the Varvara (N 42-09, E 24-07) railway station located approximately 6 kilometers south of the Saran'ovo railway station;
- (2) Type: iron, girder, twin-span, each 25 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 60 meters;
- (5) Width: 7 meters;
- (6) Height above river bed: 9 meters;
- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 4 meters;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 60-65 degrees.

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b. Bridge crossing the Elli-Dere River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 6 kilometers south of the Varvara railway station;
- (2) Type: iron, girder, single-span, 8-10 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: 10-12 meters;
- (5) Width: 7 meters;
- (6) Height above river bed: 5 meters;
- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: very swift;
- (13) High water mark: 1.5-2 meters;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 70 degrees.

c. Bridge crossing the Elli-Dere River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: 400 meters south of the bridge described in Para. 97 b above;
- (2) Type: iron, girder, single-span, 10 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: 12 meters;
- (5) Width: 7 meters;
- (6) Height above river bed: 3.5-4 meters;
- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;

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(14) Low water mark: 40 centimeters; and

(15) Slope of river banks: 70 degrees.

d. Bridge crossing the Elli-Dere River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 600 meters south of the bridge described in Para. 97 c above, 7 kilometers south of the Varvara railway station;
- (2) Type: iron, girder, single-span, 10 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: 12 meters;
- (5) Width: 7 meters;
- (6) Height above river bed: 4 meters;
- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: very swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 30 centimeters; and
- (15) Slope of river banks: 70 degrees.

e. Bridge crossing the Elli-Dere River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 400 meters south of the bridge described in Para. 97 d above;
- (2) Type: iron, girder, single-span, 10 meters in length;
- (3) Abutments: stone masonry;
- (4) Length: 12-13 meters;
- (5) Width: 7 meters;
- (6) Height above river bed: 4 meters;
- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;

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- (11) Mining: not known;
- (12) Current: very swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 30 centimeters; and
- (15) Slope of river banks: 70 degrees.

f. Bridge crossing the Kamenitsa River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: 500 meters south of the Luzhene (N 42-02, E 24-00) railway station, in the direction of Kostandovo (N 42-01, E 24-06);
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 36 meters;
- (5) Width: 7 meters;
- (6) Height above river bed: 5 meters;
- (7) Service paths: 80 centimeters wide, one on each, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 50 centimeters; and
- (15) Slope of river banks: 60 degrees.

g. Bridge crossing the Chepinska River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: 300 meters from the Chepino (N 41-59, E 23-59) railway station, in the direction of Yakoruda;
- (2) Type: iron, girder, twin-span, each 10 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 25 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;

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(8) Sides: iron railings;

(9) Capacity: 2500 kilograms per square centimeter;

(10) Support: equalizing bed type;

(11) Mining: not known;

(12) Current: swift;

(13) High water mark: 2 meters;

(14) Low water mark: 40 centimeters; and

(15) Slope of river banks: 70-75 degrees.

h. Bridge crossing the Cherna Mesta River, constructed between 1925 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: 3 kilometers east of the Yakoruda railway station;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 36 meters;
- (5) Width: 7 meters;
- (6) Height above river bed: 6 meters;
- (7) Service paths: 80 centimeters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water marks: 2.5 meters;
- (14) Low water marks: 40 centimeters; and
- (15) Slope of river banks: 70 degrees.

i. Bridge crossing the Cheleseniska River, constructed between 1936 and 1940, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1.5 kilometers west of the Babyak (N 41-58, E 23-40) railway station;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 50 meters;

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(5) Width: 7 meters;

(6) Height above river bed: 10 meters;

(7) Service paths: 80 centimeters wide, one on each side, paved in wood;

(8) Sides: iron railings;

(9) Capacity: 2500 kilograms per square centimeter;

(10) Support: equalizing bed type;

(11) Mining: not known;

(12) Current: slow;

(13) High water mark: 2 meters;

(14) Low water mark: 50 centimeters; and

(15) Slope or river banks: 70 degrees.

j. Bridge crossing the Glazna River, constructed between 1936 and 1940, never underwent any major repairs, has the following characteristics:

(1) Location: 300 meters north of the Bansko (N 41-49, E 23-29) railway station;

(2) Type: iron, girder, twin-span, each 20 meters in length;

(3) Abutments and piles: stone masonry;

(4) Length: 48-50 meters;

(5) Width: 7 meters;

(6) Height above river bed: 6 meters;

(7) Service paths: 80 centimeters wide, one on each side, paved in wood;

(8) Sides: iron railings;

(9) Capacity: 2500 kilograms per square centimeter;

(10) Support: equalizing bed type;

(11) Mining: not known;

(12) Current: very swift;

(13) High water mark: 4.5-5 meters;

(14) Low water mark: 50 centimeters; and

(15) Slope of river banks: 70 degrees.

98. There are no viaducts on the Saran'ovo-Dobrinishta railway line.

99. The Saran'ovo-Dobrinishta railway line includes the following tunnels (a sketch showing the tunnels on this line is included as Appendix D on page 98).

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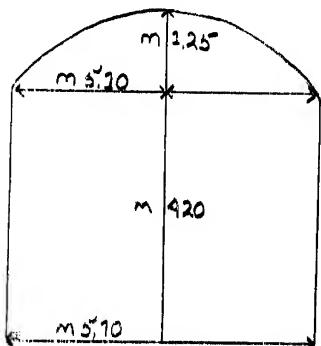
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a. Tunnel No. 1 (90 meters), Tunnel No. 2 (70 meters), Tunnel No. 3 (120 meters), Tunnel No. 4 (60 meters), Tunnel No. 5 (50 meters), Tunnel No. 6 (85 meters), Tunnel No. 7 (110 meters), Tunnel No. 8 (80 meters), Tunnel No. 9 (120 meters), and Tunnel No. 10 (90 meters), have the following characteristics:

- (1) Terrain: compact rock;
- (2) Axis of tunnel: rectilinear;
- (3) Facing: partially faced at the tunnel entrances for a distance 15-20 meters;
- (4) Roof of tunnel: freestone;
- (5) Sides of tunnel: stone masonry;
- (6) Niches: located 50 meters apart, alternately on either side of the tunnel;
- (7) Profile of tunnels: rectangular, surmounted by a semi-circle as shown in the sketch below;



b. Tunnel No. 11, with the following characteristics:

- (1) Length: 120 meters;
- (2) Location: approximately 12 kilometers from the Yakoruda railway station in the direction of Chepino;
- (3) Terrain: compact rock;
- (4) Axis of tunnel: rectilinear;
- (5) Facing: partial, at the tunnel entrances, for a distance of 15-20 meters; and
- (6) Niches and profile of tunnel: as in the sketch shown in Para. 99 a above.

c. Tunnel No. 12, with the following characteristics:

- (1) Length: approximately 200 meters;
- (2) Location: approximately 7 kilometers east of the Yakoruda railway station;
- (3) Terrain: compact rock;
- (4) Axis of tunnel: slightly circular;

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- (5) Facing: partial, at the tunnel entrances, for a distance of 20 meters; and
- (6) Niches and profile: as in the sketch shown following Para. 99 a above.
- d. Approximately 15 additional tunnels varying in length between 80 meters and 400 meters, are located in a section 7 kilometers in length, between the stations of Sveta Petka (N 42-02, E 23-52), 9 kilometers from Chepino in the direction of Yakoruda, and the station of Vramovi Kolibi (sic) 16 kilometers from Chepino in the direction of Yakoruda. In this section the railway line descends from a height of 1864 meters to a height of 1560 meters, in a series of curves. All these tunnels, details of which are not known, are cut into compact rock, are partially faced at the tunnel entrances for a distance of 20-25 meters, and their axis is circular. The niches and profiles of these tunnels are identical to those described in Para. 99 a above.

Sofia-Plovdiv, via Ikhtiman, Pazardzhik (Spring 1951)

- 100. This is a standard-gauge line, 175 kilometers in length. This line is single-track, with the exception of the Sofia-Novoseltsi section, 25 kilometers in length, which is double-track and was built by the Germans between 1942 and 1943. Ordinarily traction is by steam engine. The rails are 14 and 18 meters in length.
- 101. The Sofia-Plovdiv railway line was constructed prior to 1910. In 1949 and 1950 the rails were changed and major repairs were made to the entire road bed. Seven trains run daily in each direction on this line. Four of the trains departing from Sofia proceed to Burgas and three proceed to Svilengrad.
- 102. The Sofia-Plovdiv railway line crosses the following bridges:
  - a. Bridge crossing the Iskúr River, constructed prior to 1910, never underwent any major repairs, has the following characteristics:
    - (1) Location: 400 meters south of Gara Iskúr (6 kilometers from the Sofia main railway station) in the direction of Vakarel (N 42-33, E 23-43);
    - (2) Type: iron, girder, ten-spans, each 20 meters in length;
    - (3) Abutments and piles: stone masonry;
    - (4) Girders: the bridge is equipped with rectilinear girders which are joined together by means of clasps, and a multiple truss; the girders are six meters in height;
    - (5) Length: 230-250 meters;
    - (6) Width: 8 meters;
    - (7) Height above river bed: 7-8 meters;
    - (8) Service paths: 1.5 meters wide, one on each side, paved in wood;
    - (9) Capacity: 2500 kilograms per square centimeter;
    - (10) Support: equalizing bed type;
    - (11) Mining: not known;
    - (12) Current: slow;

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(13) High water mark: 2.5 meters;

(14) Low water marks: 40 centimeters; and

(15) Slope of river banks: 35-40 degrees.

b. Bridge crossing the Dolna Banya River, constructed prior to 1910, never underwent any major repairs, has the following characteristics:

- (1) Location: 3 kilometers northeast of the Gara Kostenets (N 42-15, E 23-50);
- (2) Type: iron, girder, four-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 100-110 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 15 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: very slow;
- (13) High water mark: 2-2.5 meters;
- (14) Low water marks: 30 centimeters; and
- (15) Slope of river banks: 60 degrees.

c. Bridge crossing the Maritsa River, constructed prior to 1910, never underwent any major repairs, has the following characteristics:

- (1) Location: 300 meters northwest of Gara Kostenets;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10-11 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;

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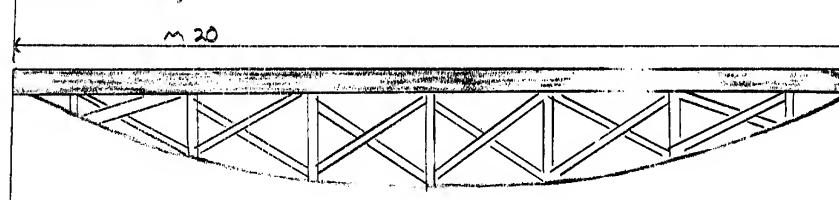
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 30 centimeters; and
- (15) Slope of river banks: 70 degrees.

d. Bridge crossing the Sestrema River, constructed prior to 1910, never underwent any major repairs, has the following characteristics:

- (1) Location: 200 meters northwest of Gara Sestrimo (N 42-14, E 23-56) situated 6 kilometers southeast of Gara Kostenents;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 12 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2 meters;
- (14) Low water mark: 50 centimeters; and
- (15) Slope of river banks: 80 degrees.

e. Bridge crossing the Sükha River, constructed prior to 1910, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1.5 kilometers northwest of Gara Sestrimo;
- (2) Type: iron, girder, single-span, approximately 70 meters in length;
- (3) Girders: the bridge is equipped with 2 semi-parabolical girders (one on each side), inverted, 7 meters high in the center, as shown in the sketch below;



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- (4) Abutments and piles: stone masonry;
- (5) Length: approximately 74 meters;
- (6) Width: 8 meters;
- (7) Height above river bed: 25 meters;
- (8) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (9) Sides: iron railings;
- (10) Capacity: 3200 kilograms per square centimeter;
- (11) Support: "a rulli";
- (12) Mining: not known;
- (13) Current: swift (in the spring);
- (14) High water mark: 4-5 meters (in the spring);
- (15) Low water mark: practically no water; and
- (16) Slope of river banks: 80 degrees.

f. Bridge crossing the river (name unknown), constructed prior to 1910, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 2.2 kilometers northwest of Gara Sestrioso;
- (2) Type: iron, girder, three-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 70-72 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 14-15 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: moderately swift;
- (13) High water mark: 2-2.5 meters;
- (14) Low water mark: 10 centimeters; and
- (15) Slope of river banks: 80 degrees.

g. Bridge crossing the Eili-Dere River, constructed prior to 1910, never underwent any major repairs, has the following characteristics:

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- (1) Location: approximately 3.5 kilometers east of Saran'ovo (N 42-13, E 24-08);
- (2) Type: iron, girder, eight-spans, each 12 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 120 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 5 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: swift;
- (13) High water mark: 2.5 meters;
- (14) Low water mark: 30-40 centimeters; and
- (15) Slope of river banks: 30-35 degrees.

h. Bridge crossing the Vúcha River, constructed prior to 1910, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 5.5 kilometers east of Krichim (sic);
- (2) Type: iron, girder, four-span, each 15 meters in length;
- (3) Girders: four section of girders, four on each side, rectilinear, truss-type; each girder is separated by a distance of 20 centimeters and is six meters in height;
- (4) Abutments and piles: stone masonry;
- (5) Length: approximately 65 meters;
- (6) Width: 8 meters;
- (7) Height above river bed: 8 meters;
- (8) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (9) Capacity: 3200 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: moderately swift;
- (13) High water mark: 3 meters;

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(14) Low water mark: 50 centimeters; and

(15) Slope of river banks: 50 degrees.

103. There are no viaducts or tunnels on the Sofia-Plovdiv line.

Plovdiv-Svilengrad, via Dimitrovgrad Line (Autumn 1950)

25X1

104. This line, which is 198 kilometers in length, is standard gauge, and single track; ordinarily traction is by steam engine. The rails are 14 and 18 meters in length.

105. The Plovdiv-Svilengrad railway line was constructed prior to 1920. Between 1949 and 1950 major repairs were made to the entire road bed and the rails were changed. Three passenger trains run in each direction daily on this line.

106. The Plovdiv-Svilengrad line crosses the following bridges:

a. Bridge crossing the Gaya (sic) River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 600 meters west of the Katunitsa (N 42-06, E 24-52) railway station;
- (2) Type: iron, girder, three-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 60 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Supports: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water marks: 2-2.6 meters;
- (14) Low water marks: 60 centimeters; and
- (15) Slope of river banks: 50 degrees.

b. Bridge crossing the Stari Izvor River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 800 meters east of the Sadovo (N 42-07, E 24-57) railway station;
- (2) Type: iron, girder, three-span, each 12 meters in length;
- (3) Abutments and piles: stone masonry;

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(4) Length: 45 meters;

(5) Width: 8 meters;

(6) Height above river bed: 8 meters;

(7) Service paths: 1.5 meters wide, one on each side, paved in wood;

(8) Sides: iron railings;

(9) Capacity: 2500 kilograms per square centimeter;

(10) Support: equalizing bed type;

(11) Mining: not known;

(12) Current: slow;

(13) High water mark: 2 meters;

(14) Low water mark: 50 centimeters; and

(15) Slope of river banks: 50 degrees.

c. Bridge crossing the Maska River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

(1) Location: approximately 1.5 kilometers east of Borisovgrad;

(2) Type: iron, girder, twin-span, each 20 meters in length;

(3) Abutments and piles: stone masonry;

(4) Length: 48 meters;

(5) Width: 8 meters;

(6) Height above river bed: 6 meters;

(7) Service paths: 1.5 meters wide, one on each side, paved in wood;

(8) Sides: iron railings;

(9) Capacity: 2500 kilograms per square centimeter;

(10) Support: equalizing bed type;

(11) Mining: not known;

(12) Current: swift;

(13) High water mark: not known;

(14) Low water marks: 40-50 centimeters; and

(15) Slope of river banks: 35-40 degrees.

d. Bridge crossing the river (name unknown), constructed prior to 1920, never underwent any major repairs, has the following characteristics:

(1) Location: approximately 800 meters east of the Skobeleva (N 42-06, E 25-22) railway station;

(2) Type: iron, girder, single-span, 20 meters in length;

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- (3) Abutments and piles: stone masonry;
- (4) Length: 22 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 5-6 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Supports: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: not known;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 40 degrees.

107. There are no viaducts or tunnels on the Plovdiv-Skobeleva section of the Plovdiv-Svilengrad railway line.

Dimitrovgrad-Potkovo, via Khaskovo, Kürdzhali, and Momchilgrad Line (Spring 1951)

108. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 8, 12, and 14 meters in length.

109. The Dimitrovgrad-Kürdzhali<sup>1</sup> section was constructed between 1928 and 1932. The section Kürdzhali-Potkovo (sic) was completed in 1936. Three passenger trains run daily in each direction on this line.

110. The Dimitrovgrad-Potkovo (sic) railway line crosses the following bridges:

a. Bridge crossing the river (name unknown), constructed between 1928 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 1.2 kilometers north of the Knizhovnik (N 41-50, E 25-36) railway station;
- (2) Type: iron girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 36 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Supports: not known;

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(11) Mining: not known;

(12) Current: swift;

(13) High water mark: 3 meters;

(14) Low water mark: 40 centimeters; and

(15) Slope of river banks: 80 degrees.

b. Bridge crossing the Perperek River, constructed between 1928 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Locations: approximately 400 meters southwest of the Perperek (N 41-41, E 25-32) railway station, and approximately 15 kilometers northeast of Kürdzhali;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 11-12 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Supports: equalizing bed type;
- (11) Mining: not known;
- (12) Current: moderate;
- (13) High water mark: 3-4 meters;
- (14) Low water mark: 80 centimeters; and
- (15) Slope of river banks: 80 degrees.

c. Bridge crossing the Arda River, constructed between 1928 and 1932, never underwent any major repairs, has the following characteristics:

- (1) Location: 1.5 kilometers south of the Kürdzhali railway station;
- (2) Type: iron, girder, six-spans, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 154 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;

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- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 4 meters;
- (14) Low water mark: 1 meters; and
- (15) Slope of river banks: 60 degrees.

111. There are no viaducts on the Dimitrovgrad-Potkovo (sic) railway line.

112. The Dimitrovgrad-Potkovo railway line includes the following tunnels:

a. Tunnel No. 1, with the following characteristics:

- (1) Length: 400 meters;
- (2) Location: approximately 400 meters south of the Perperek railway station;
- (3) Terrain: compact rock;
- (4) Axis of tunnels: rectilinear;
- (5) Facing: partial, at the tunnel entrances, for a distance of 20 meters, in freestone;
- (6) Niches: alternately on either side of the tunnel, located 50 meters apart;
- (7) Profile of tunnels: polycentric (see Para. 59 a above).

b. Tunnel No. 2, with the following characteristics:

- (1) Length: 280 meters;
- (2) Location: approximately 500 meters south of tunnel No. 1;
- (3) Terrain: compact rock;
- (4) Facing: partial, at the tunnel entrances;
- (5) Niches and profiles: as in Tunnel No. 1.

c. Tunnel No. 3, with the following characteristics:

- (1) Length: 80 meters;
- (2) Location: 6 kilometers south of the Kürdzhali railway station;
- (3) Characteristics: see Tunnel No. 1.

d. Tunnel No. 4, with the following characteristics:

- (1) Length: 105 meters;

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- (2) Location: 300 meters south of Tunnel No. 3;
- (3) Characteristics: see Tunnel No. 1; and
- e. Tunnel No. 5, with the following characteristics:
  - (1) Length: 280 meters;
  - (2) Location: 500 meters south of Tunnel No. 4;
  - (3) Characteristics: see Tunnel No. 1.

Plovdiv-Burgas, via Stara Zagora, Yambol, and Karnobat Line (Spring 1951)

- 113. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 14 and 18 meters in length.
- 114. The Plovdiv-Burgas railway line was constructed prior to 1920. Between 1949 and 1950 major repairs were made to the road bed along the entire length of the line and the rails were changed. Four passenger trains run daily in each direction on this line.
- 115. The Plovdiv-Burgas railway line crosses the following bridges:
  - a. Bridge crossing the Pyeshenik River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:
    - (1) Location: approximately 4.5 kilometers east of Gara-Filipovo (N 42-10, E 24-44);
    - (2) Type: iron, girder, twin-span, each 30 meters in length;
    - (3) Abutments and piles: stone masonry;
    - (4) Length: 70 meters;
    - (5) Width: 8 meters;
    - (6) Height above river bed: 6 meters;
    - (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
    - (8) Sides: iron railings;
    - (9) Capacity: 2500 kilograms per square centimeter;
    - (10) Support: equalizing bed type;
    - (11) Mining: not known;
    - (12) Current: slow;
    - (13) High water mark: 3 meters;
    - (14) Low water mark: 30 centimeters; and
    - (15) Slope of river banks: 40 degrees.
  - b. Bridge crossing the Strema River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:
    - (1) Location: approximately 7 kilometers east of the bridge described in Para. 115 a above;

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- (2) Type: iron, girder, three-spans, each 20 meters in length;
- (3) Girders: this bridge is equipped with rectilinear, continuous girders forming a truss-type bridge; the girders are six meters in height and are joined together by clasps;
- (4) Abutments and piles: stone masonry;
- (5) Length: 70-76 meters;
- (6) Width: 8 meters;
- (7) Height above river bed: 8 meters;
- (8) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water marks: 40 centimeters; and
- (15) Slope of river banks: 40 degrees.

25X1

## c. Bridge crossing the Syuyutliy River;

d. Crossing the Tundzha River, constructed prior to 1920, never underwent any major repairs, has the following characteristics: 25X1

- (1) Location: 7 kilometers north of the Yambol railway station;
- (2) Type: iron, girder, four-spans, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 72 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8-9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: very slow;
- (13) High water mark: 2-2.5 meters;

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(14) Low water mark: 50 centimeters; and

(15) Slope of river banks: 40 degrees.

e. Bridge crossing the river (name unknown), constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 4-5 kilometers east of the Zimnitsa (N 42-35, E 26-36) railway station;
- (2) Type: iron, girder, twin-span, each 20 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 50 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 10 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: not known;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: not known;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 40 degrees.

f. Bridge crossing the Asmak River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 10 kilometers west of Karnobat;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 36 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8-9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;

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- (12) Current: slow;
- (13) High water mark: not known;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 50 degrees.

g. Bridge crossing the Aytos River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: approximately 8 kilometers west of Aytos;
- (2) Type: iron, girder, three-spans, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 60 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8-9 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;
- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: moderately swift;
- (13) High water mark: 3 meters;
- (14) Low water mark: 50 centimeters; and
- (15) Slope of river banks: 50 degrees.

h. Bridge crossing the Ropotamo River, constructed prior to 1920, never underwent any major repairs, has the following characteristics:

- (1) Location: 8-9 kilometers south of the Aytos railway station;
- (2) Type: iron, girder, twin-span, each 15 meters in length;
- (3) Abutments and piles: stone masonry;
- (4) Length: 36 meters;
- (5) Width: 8 meters;
- (6) Height above river bed: 8 meters;
- (7) Service paths: 1.5 meters wide, one on each side, paved in wood;
- (8) Sides: iron railings;
- (9) Capacity: 2500 kilograms per square centimeter;

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- (10) Support: equalizing bed type;
- (11) Mining: not known;
- (12) Current: slow;
- (13) High water mark: 2 meters;
- (14) Low water mark: 40 centimeters; and
- (15) Slope of river banks: 50 degrees.

116. There are no viaducts or tunnels on the Plovdiv-Burgas railway line.

Yambol-Elkhovo Line (Spring 1951)

117. This line, which is 48 kilometers in length, is standard gauge, and single track; ordinarily traction is by steam engine. The rails are 8, 12 and 14 meters in length. This line was constructed between 1936 and 1938.

25X1

118. The Yambol-Elkhovo railway line crosses the Tundzha River on a bridge constructed between 1936 and 1938, which never underwent any major repairs, and has the following characteristics:

- a. Location: 8 kilometers north of the Elkhovo railway station;
- b. Type: iron, girder, five-spans, each 15 meters in length;
- c. Abutments and piles: stone masonry;
- d. Length: 90 meters;
- e. Width: 8 meters;
- f. Height above river bed: 11 meters;
- g. Service paths: 1.5 meters wide, one on each side, paved in wood;
- h. Sides: iron railings;
- i. Capacity: 2500 kilograms per square centimeter;
- j. Support: equalizing bed type;
- k. Mining: not known;
- l. Current: slow;
- m. High water mark: 3 meters;
- n. Low water marks: 60 centimeters; and
- o. Slope of river banks: 50 degrees.

Simeonovgrad-Nova Zagora Line (Spring 1951)

119. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The Simeonovgrad-Nova Zagora railway line was constructed between 1938 and 1939.

25X1

Dimitrovgrad-Mikhaylovo (N 42-15, E 25-32) Junction Line (Spring 1951)

120. This line, which is 35 kilometers in length, is standard gauge, and single track; ordinarily traction is by steam engine. The rails are 12 and 14 meters in length.

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121. The Dimitrovgrad-Mikhaylovo railway line was constructed prior to 1920 for transporting coal from the Maritsa Basin.
122. The Dimitrovgrad-Mikhaylovo line crosses the Maritsa River, on a bridge constructed prior to 1920, which never underwent any major repairs, and has the following characteristics:
  - a. Location: approximately 1.5 kilometers north of the Dimitrovgrad railway station;
  - b. Type: iron, girder, twelve-spans, each 15 meters in length;
  - c. Abutments and piles: stone masonry;
  - d. Length: 220 meters;
  - e. Width: 8 meters;
  - f. Height above river bed: 10 meters;
  - g. Service paths: 1.5 meters wide, one on each side, paved in wood;
  - h. Sides: iron railings;
  - i. Capacity: 2500 kilograms per square centimeter;
  - j. Support: equalizing bed type;
  - k. Mining: not known;
  - l. Current: slow;
  - m. High water marks: 3 meters;
  - n. Low water marks: 1 meter; and
  - o. Slope of river banks: 40-50 degrees.
123. There are no viaducts on the Dimitrovgrad-Mikhaylovo railway line.
124. The Dimitrovgrad-Mikhaylovo railway line runs through a tunnel with the following characteristics:
  - a. Length: 220 meters;
  - b. Location: approximately 5 kilometers from the Dimitrovgrad railway station;
  - c. Terrain: soft rock;
  - d. Axis of tunnel: circular, with no slope;
  - e. Facing: faced for the entire length of the tunnel in freestone;
  - f. Niches: alternately on either side of the tunnel, located 50 meters apart;
  - g. Profile of tunnel: polycentric (see Para. 59 a above).

Burgas-Nesebur (N 42-39, E 27-44) Line (Spring 1951)

125. This is a standard-gauge, single-track line; ordinarily traction is by steam engine.

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126. The Burgas-Pomorie section was constructed prior to 1930 to connect the salt fields in this area. The Pomorie-Nesebur section was constructed between 1938 and 1940. Informant could give no details concerning the reasons for extending this railway line.

127. There are no bridges, viaducts, or tunnels on the Burgas-Nesebur railway line.

Sofia-Pirdop, via Mirkovo (N 42-42, E 23-59) Line (Spring 1951)

128. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. The rails are 8 and 12 meters in length. This line was constructed between 1934 and 1938.

129. Three passenger trains run daily in each direction on this line. Five additional trains run daily in each direction on the Sofia-Gorna Yana [ ] section, located 9 kilometers southeast of Svetovrachane (N 42-47, E 23-23). These trains are used for transporting workers to and from Sofia. 25X1

130. [ ]  
There are no viaducts or tunnels on this line.

131. For details concerning the extension of this railway line as far as Sopot (N 42-38, E 24-46), see the section "Lines under Construction," Paras. 138-143).

Voluyak (N 42-47, E 23-14)-Pernik Line (July 1951)

132. This line, which is 30 kilometers in length, is standard gauge, and single track; ordinarily traction is by steam engine.

133. The Voluyak-Pernik railway line was constructed between 1946 and 1947 to make connections with the Pernik coal line and thereby decrease traffic on the Sofia-Pernik trunk line. The terrain upon which this line was constructed turned out to be soft and thus incapable of carrying heavy loads. This line is therefore used exclusively for the transportation of workers and empty freight cars. A large number of "volunteer" brigades were used in the construction of this railway line.

134. [ ] 25X1

135. The Voluyak-Pernik railway line runs through the following tunnels:

a. Tunnel No. 1, with the following characteristics:

(1) Length: 1.8 kilometers;

(2) Location: 10-12 kilometers southwest of the Volvek (sic) railway station;

(3) Characteristics: not known;

b. Tunnel No. 2, with the following characteristics:

(1) Length: 1.8 kilometers;

(2) Location: approximately 1.5 kilometers southwest of Tunnel No. 1;

(3) Details: not known; and

c. Tunnel No. 3, with the following characteristics:

(1) Length: approximately 900 meters; and

(2) Location: approximately 2 kilometers southwest of Tunnel No. 2.

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Tervel-Sredets Line (July 1951)

136. This is a narrow-gauge (80 centimeters in width), single-track line; ordinarily traction is by steam engine.

137. The Tervel-Sredets railway line was started in 1942, temporarily suspended in 1944, and continued and completed between 1946 and 1947. [redacted] 25X1  
[redacted] 25X1

Bulgarian Railway Lines under Construction

Pirdop-Sopot (N 42-38, E 24-46), via Dushantsi, Klisura (N 42-42, E 24-28), and Bozhidar (N 42-42, E 24-33). Line (July 1951)

138. This is a standard-gauge, single-track line, ordinarily traction is by steam engine.

139. Construction work on the Pirdop-Sopot railway line was started in 1938, suspended during World War II, and continued in 1946. As of July 1951, the track had been laid along the entire length of this line. Final facing work on one tunnel is being completed. This line should be open for traffic on 9 September 1951. Work on this line was done by two construction sections of the state railways which, in 1950, employed a maximum of six thousand workers. At present, only 1500 workers are allegedly employed on the completion of the Pirdop-Sopot railway line.

140. The Pirdop-Sopot railway line crosses the river (name unknown), on a bridge, the construction of which was completed in the spring of 1951, and which has the following characteristics:

- a. Location: 6 kilometers west of Klisura railway station;
- b. Type: reinforced concrete, three-arches, the central one of which is 80 meters in length, and the other two are 60 meters in length;
- c. Abutments and piles: stone masonry;
- d. Length: 260 meters;
- e. Width: 9 meters;
- f. Height above river bed: 22 meters;
- g. Service paths: 1.5 meters wide, one on each side, paved in cement;
- h. Sides: reinforced concrete, 80 centimeters in height;
- i. Capacity: not known;
- j. Mining: not known;
- k. Current: swift;
- l. High water marks: 5-6 meters;
- m. Low water marks: 50 centimeters; and
- n. Slope of river banks: 60-70 degrees.

141. There are no viaducts on the Pirdop-Sopot railway line.

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142. The Pirdop-Sopot railway line runs through the following tunnels ( a sketch showing the tunnels listed below is included as Appendix E, on page 100).

- a. Tunnel No. 1 (800 meters), Tunnel No. 2 (700 meters), Tunnel No. 3 (1.2 kilometers), Tunnel No. 4 (5.896 meters), and Tunnel No. 5 (1.8 kilometers) all have the following characteristics:
  - (1) Terrain: compact rock;
  - (2) Axis of tunnel: rectilinear;
  - (3) Facing: partial, for a distance of 20-25 meters from the tunnel entrances, with the exception of Tunnel No. 4 above which will be faced in freestone for its entire length;
  - (4) Niches: located 50 meters apart, alternately on either side of the tunnel;
  - (5) Profile of tunnels: polycentric (see Para. 59 a above).

143. All the tunnels on the Pirdop-Sopot railway line have been completed with the exception of Tunnel No. 4 (5896 meters) the facing of which is near completion.

Silistra-Todor Ikonomovo (N 43-39, E 27-10) Line (July 1951)

144. This is a standard-gauge, single-track line; ordinarily traction is by steam engine.

145. Construction work on the Silistra-Todor Ikonomovo railway line started in 1946, and is scheduled to be completed by 9 September 1951. Recently approximately 10,000 political prisoners allegedly worked on this railway line.

25X1

Yaskovets (N 43-06, E 25-22)-Elena (N 42-56, E 25-52) Line (July 1951)

146. This is a standard-gauge, single-track line; ordinarily traction is by steam engine.

147. Construction work on the Yaskovets-Elena railway line started in 1947 and is scheduled to be completed by the end of 1951; it should be open to traffic by 1 January 1952.

25X1

Samuil (N 43-31, E 26-35)-Isperikh-Silistra Line (July 1951)

148. This is a standard-gauge, single-track line; ordinarily traction is by steam engine. Construction on this line was started in 1947 and is scheduled to be completed in 1952.

Dobrinishta (N 41-49, E 23-33)-Nevrokop Line (July 1951)

149. This a narrow-gauge (80 centimeters in width), single-track line; ordinarily traction is by steam engine. At the present time work is limited to preparation of the terrain for this railway line.

Railway Lines Planned for Construction

Peshtera (N 42-07, E 24-18)-Devin, via Batak (N 41-57, E 24-11), and Fotinovo (N 41-53, E 24-21) Line (July 1951)

150. This will be a standard-gauge, single-track line; ordinarily traction will be by steam engine. Plans for this railway line were drawn up in 1946 by the engineer Nikola Sarmagiev. This line will be used chiefly for the transportation of wood. Informant could give no further details concerning this railway line.

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Asenovgrad (N 41-59, E 24-52)-Zlatograd (N 41-23, E 2504), via Bachkovo (N 41-57, E 24-51), Pavelsko (N 41-52, E 24-42), Chepelare (N 41-43, E 24-41), Smolyan, Raykovo (N 41-35, E 24-47), Rudozem (N 41-29, E 24-53) and Madan (N 41-30, E 24-57) Line (July 1951)

151. This will be a standard-gauge, single-track line; ordinarily traction will be by steam engine. Plans for the construction of this railway line were drawn up about 1948 by the engineers Nikola Sarmagiev and Ivan Radev, at present deputy chief of the railway plans section of the Ministry of Transportation. Allegedly the Soviets are said to be exerting pressure on the Bulgarian Ministry of Transportation for the immediate completion of this plan, since this line would serve the Madan Copper Mines. Informant could give no further details on this railway line.

Berkovitsa (N 43-14, E 23-06)-Medovnitsa (N 43-39, E 22-47), via Chiporovtsi (N 43-23, E 22-53), Gorni Lom (N 43-29, E 22-44), and Belogradchik Line (July 1951)

25X1

152. This will be a standard-gauge, single-track line; ordinarily traction will be by steam engine.

Vratsa-Oryakhovo Line (July 1951)

153. This will be a standard-gauge, single-track line; ordinarily traction will be by steam engine. This line is scheduled to extend to Byala Slatina, and connect with the narrow-gauge line already existing which would be changed over to a standard-gauge line.

#### Railway Locomotives and Railcars

154. As of July 1951, the Bulgarian railways were equipped with the following traction equipments:

a. 2100 steam locomotives for standard-gauge lines

25X1

b. approximately 80 locomotives for narrow-gauge lines (80 centimeters in width);

c. approximately 50 Ganz, Breda, and Fiat railcars for standard-gauge lines; 20 of these are dark green in color and are assigned for the use of the various ministries; the Ganz railcars

25X1

have the following specifications:

25X1

(1) Weight: 60 tons;

(2) Engines: at the center;

(3) Length: 22 meters;

(4) Seats: 70;

(5) Consumption: 120 liters for 42 kilometers over an irregular route with slopes varying between 15 and 25 degrees; and

d. approximately 20 Ganz railcars for narrow-gauge (80 centimeters in width) lines.

155.

25X1

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Locomotive and Railcar DepotsLocomotive Depots

156. The Sofia locomotive depot (July 1951) [redacted], was 25X1 constructed in 1936 and consists of 9 reinforced-concrete sections, each approximately 130 by 15 meters in size, each crossed lengthwise by two tracks; vaulted roof with a 1-meter rise, with glass windows supported by reinforced concrete "nervatures"; height at center, 9 meters; each of the nine sections is equipped with workshops for small repairs, facilities for washing, and cleaning the locomotives and has a capacity of 18-20 locomotives; approximately 180 steam locomotives of standard gauge are located in this depot.

157. The Vakarel (N 42-33, E 23-43) locomotive depot (July 1951) consists of a stone masonry building approximately 50 by 18 meters in size with a twin-sloped roof; constructed in 1910; two tracks run through the building lengthwise. Twenty steam locomotives for standard-gauge tracks are located at this depot; these locomotives are of the heavy duty type because of the slopes running to and from Vakarel which vary between 25 and 28 degrees.

158. The Saran'ovo (N 42-13, E 24-06) locomotive depot (July 1951) consists of the following sections constructed between 1943 and May 1950:

- a. 7 reinforced-concrete sections, each approximately 120 by 8 meters in size; saw-tooth roof with vertical, glass-covered slopes; , each section having a single-track, used for parking locomotives for standard gauge lines; and
- b. 3 reinforced-concrete sections, each approximately 90 by 6 meters in size; saw-tooth roof, with vertical, glass-covered slopes; , each section has a single track for narrow-gauge locomotives (80 centimeters in width).

The Saran'ovo locomotive depot is equipped with the following:

- (1) 20 steam locomotives for standard-gauge lines, five of which were loaned to Yugoslavia in 1947 on payment of a total of 5000 leva rental a day;
- (2) 10 steam locomotives for narrow-gauge lines (80 centimeters in width); and
- c. 8 Ganz railcars for narrow-gauge lines (80 centimeters in width).

159. The Peshtera locomotive depot (July 1951) consists of one large wooden building, approximately 40 by 18 meters in size, crossed by two tracks. This depot is equipped with 10 locomotives for standard-gauge lines.

160. The Plovdiv main railway station locomotive depot (July 1951) consists of eight reinforced-concrete sections, each approximately 100 by 9 meters in size; saw-tooth roof, with nearly vertical glass-covered slopes; each section is crossed by one railway track. The Plovdiv locomotive depot was constructed in 1920 and repaired in 1950, and is equipped with 120 steam locomotives for standard-gauge lines.

161. The Karlovo locomotive depot (July 1951) consists of three reinforced-concrete sections, each approximately 40 by 9 meters in size; saw-tooth roof with nearly vertical glass-covered slopes; each section is crossed by one railway track. The Karlovo locomotive depot was constructed in 1942 and is equipped with 20 steam locomotives for standard-gauge lines.

162. The Stara Zagora locomotive depot (July 1951) consists of eight reinforced-concrete sections, each approximately 80 by 9 meters in size; saw-tooth roof, with nearly vertical glass-covered slopes; each section is crossed by one track. This depot was constructed between 1932 and 1934 and houses 60 steam locomotives for standard-gauge lines.

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163. The Nova Zagora locomotive depot (July 1951) was constructed in 1936 and comprises three reinforced-concrete sections, each approximately 40 by 9 meters in size; twin-sloped tile-covered roof. A single track runs on each of these sections. 15 steam locomotives for standard-gauge lines are housed in this depot.

164. The Elkhovo locomotive depot (July 1951) was constructed in 1938 and comprises four reinforced-concrete sections each approximately 50 by 9 meters in size; saw-tooth roof with nearly vertical glass-covered slopes. A single track runs on each section. This depot houses 20 steam locomotives for standard-gauge lines.

165. The Karnobat locomotive depot (July 1951) constructed in 1939, comprises three reinforced-concrete sections each approximately 50 by 9 meters in size; saw-tooth roof with nearly vertical glass-covered slopes. Each section is crossed by single track. This depot houses between 15 and 20 steam locomotives for standard-gauge lines.

166. The Atia (sic) locomotive depot (Spring 1951), located approximately 2 kilometers west of the suburbs of Burgas, on the line to Aytos, was constructed between 1930 and 1932, repaired in 1948 and comprises three or four reinforced-concrete sections, each approximately 80 by 9 meters in size. The depot has a saw-tooth roof, with nearly vertical glass-covered slopes. Each section is crossed by a single track. The depot houses 60 steam locomotives for standard gauge-lines.

167. The Dimitrovgrad locomotive depot (July 1951) comprises a large wooden building approximately 60 by 18 meters in size, crossed by two tracks. Construction is planned for 10 large reinforced-concrete buildings each 100 by 9 meters in size to be used as locomotive depots. The Dimitrovgrad locomotive depot houses 20 steam locomotives for standard-gauge lines.

168. The Kürdzhali locomotive depot (July 1951) was constructed in 1936 and comprises one large wooden building approximately 40 by 18 meters in size, crossed by two tracks. The depot houses 20 steam locomotives for standard-gauge lines.

169. The Svilengrad locomotive depot (July 1951) was constructed in 1932-1934 and comprises two reinforced-concrete sections each 35 by 18 meters in size; twin-sloped, tile-covered roof. Each section is crossed by two tracks. This depot houses 15 steam locomotives for standard-gauge lines.

170. The Dubovo (N 42-36, E 25-39) locomotive depot (July 1951) was constructed in 1938 and comprises two reinforced-concrete sections each approximately 40 by 9 meters in size; saw-tooth roof with nearly vertical glass-covered slopes. Each section is crossed by single track. This depot houses 20 steam locomotives for standard-gauge lines.

171. The Plachkovtsi (N 42-49, E 25-26) locomotive depot (July 1951) was constructed between 1926 and 1930, and comprises two stone masonry sections each approximately 60 by 18 meters in size; twin-sloped, tile-covered roof. Each section is crossed by two tracks. This depot houses 40 steam locomotives for standard-gauge lines.

172. The Tsareva Livada (N 42-56, E 25-29) locomotive depot (July 1951) was constructed between 1928 and 1930 and comprises two stone masonry sections each approximately 40 by 18 meters in size; twin-sloped, tile-covered roof. Each section is crossed by two tracks. This depot houses 20 steam locomotives for standard-gauge lines.

173. The Gabrovo locomotive depot (July 1951) was constructed in 1936 and comprises two reinforced-concrete sections, each approximately 50 by 9 meters in size; saw-tooth roof with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 20 steam locomotives for standard-gauge lines.

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174. The Svoge (N 42-58, E 23-19) locomotive depot (July 1951) was constructed prior to 1920 and comprises two wooden sections each approximately 40 by 9 meters in size, each crossed by a single track. This depot houses between 10 and 15 steam locomotives for standard-gauge lines.

175. The Eliseyna (N 43-06, E 23-30) locomotive depot (July 1951) constructed prior to 1920, comprises two wooden sections, each 40 by 18 meters in size. Each section is crossed by two railway tracks. This depot houses between 10 and 15 steam locomotives for standard-gauge lines.

176. The Mezdra (N 43-09, E 23-40) locomotive depot (July 1951) was constructed prior to 1920 and comprises two stone masonry sections, each approximately 60 by 18 meters in size, with a twin-sloped roof. Each section is crossed by two tracks. This depot houses 60 steam locomotives for standard-gauge lines.

177. The Vratsa locomotive depot (July 1951) was constructed between 1938 and 1940, comprises two or three stone masonry sections, each approximately 40 by 9 meters in size with a saw-toothed roof with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 60 steam locomotives for standard-gauge lines.

178. The Boychinovtsi (N 43-29, E 23-19) locomotive depot (July 1951) was constructed prior to 1920 and comprises two stone masonry sections each approximately 35 by 18 meters in size with a twin-sloped roof. Each section is crossed by two tracks. Plans are being drawn up for the construction of a new depot. This depot houses between 15 and 20 steam locomotives for standard-gauge lines.

179. The Lom locomotive depot (Spring 1951) was constructed in 1938 and comprises two stone masonry sections each approximately 40 by 9 meters in size, with a saw-toothed roof with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 20 steam locomotives for standard-gauge lines.

180. The Vidin locomotive depot (Spring 1951) was constructed between 1926 and 1928 and comprises two stone masonry sections each approximately 50 by 9 meters in size with a twin-sloped roof. Each section is crossed by a single track. This depot houses 30 steam locomotives for standard-gauge lines.

181. The Cherven Bryag (N 43-16, E 24-06) locomotive depot (Spring 1951) comprises the following sections:

- 3 stone masonry sections, constructed prior to 1920, each approximately 50 by 18 meters in size with a twin-sloped roof; each section is crossed by two tracks; and
- a stone masonry section constructed prior to 1920 approximately 40 by 8 meters in size with a twin-sloped roof; crossed by a narrow-gauge line.

This depot houses 20 steam locomotives for standard-gauge lines and 10 steam locomotives for narrow-gauge lines (80 centimeters in width).

182. The Oryakhovo locomotive depot (Spring 1951) was constructed in 1932 and comprises two reinforced concrete sections each 40 by 8 meters in size with a saw-toothed roof with nearly vertical glass-covered slopes. Each section is crossed by a single narrow-gauge track. This depot houses 15 steam locomotives for narrow-gauge lines (80 centimeters in width).

183. The Somovit (N 43-41, E 24-46) locomotive depot (Spring 1951) was constructed in 1936 and comprises two stone masonry sections each approximately 40 by 9 meters in size with a saw-toothed roof with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 10 steam locomotives for standard-gauge lines.

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184. The Pleven (old station) locomotive depot (Spring 1951) was constructed between 1932 and 1936 and comprises four reinforced-concrete sections each approximately 80 by 9 meters in size with saw-toothed roofs with vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 40 steam locomotives for standard-gauge lines.

185. The Levski (N 43-22, E 23-08) locomotive depot (Spring 1951) comprises the following sections:

- Four reinforced-concrete sections completed in January or February 1951, each approximately 50 by 18 meters in size with saw-toothed roofs with nearly vertical glass-covered slopes; each section is crossed by two tracks; and
- Two stone masonry sections constructed prior to 1920 each 30 by 18 meters in size with a twin-sloped roof; each section is crossed by two tracks.

This depot houses 20 steam locomotives for standard-gauge lines.

186. The Svishtov locomotive depot (Spring 1951) constructed in 1938, comprises two reinforced-concrete sections each approximately 40 by 19 meters in size; vaulted roof with a 1-meter rise and equipped with glass windows supported by reinforced-concrete nervatures. Each section is crossed by two tracks. This depot houses 15 steam locomotives for standard-gauge lines.

187. The Lovech locomotive depot (Spring 1951) constructed between 1936 and 1940 comprises two reinforced-concrete sections each approximately 40 by 9 meters in size, with saw-toothed roofs with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 20 steam locomotives for standard-gauge lines.

188. The Gorna Oryakhovitsa locomotive depot (Spring 1951) comprises the following sections:

- Ten reinforced-concrete sections, each 100 by 9 meters in size with saw-toothed roofs with nearly vertical glass-covered slopes; each section is crossed by a single track; and
- Two reinforced-concrete sections each 120 by 25 meters in size, with saw-toothed roofs with nearly vertical glass-covered slopes; each section is crossed by three tracks used by railcars.

This depot houses between 200 and 250 steam locomotives for standard-gauge lines and 15 railcars for standard-gauge lines.

189. The Ruse locomotive depot (Autumn 1950), completed in May 1940, comprises four reinforced-concrete sections each 130 by 9 meters in size, with saw-toothed roofs with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses between 80 and 100 steam locomotives for standard-gauge lines.

190. The Turgovishte locomotive depot (Spring 1951), constructed between 1922 and 1925, comprises two stone masonry sections each approximately 40 by 18 meters in size, with twin-sloped tile-covered roofs. Each section is crossed by two railway tracks. This depot houses 20 steam locomotives for standard-gauge lines.

191. The Shumen locomotive depot (Spring 1951), constructed in 1942, comprises four reinforced-concrete sections each approximately 100 by 9 meters in size, with saw-toothed roofs with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses between 80 and 100 steam locomotives for standard-gauge lines.

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192. The Kaspichan (N 43-18, E 27-11) locomotive depot (Spring 1951), constructed between 1938 and 1940, comprises two or three reinforced-concrete sections, each 60 by 9 meters in size with saw-toothed roofs with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 20 to 25 steam locomotives for standard-gauge lines.

193. The Sindel (N 43-07, E 27-36) locomotive depot (Spring 1951) comprises one stone masonry building approximately 40 by 20 meters in size with a twin-sloped roof. This section is crossed by a single track. This depot houses 10 steam locomotives for standard-gauge lines.

194. The Dobrich locomotive depot (Spring 1951) was constructed prior to 1925 and comprises two stone masonry sections each approximately 60 by 18 meters in size with twin-sloped roofs. Each section is crossed by two railway tracks. This depot houses between 20 and 25 steam locomotives for standard-gauge lines.

195. The Varna locomotive depot (Spring 1951) was constructed between 1938 and 1942, and comprises four reinforced-concrete sections each approximately 60 by 9 meters in size with saw-toothed roofs with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses between 80 and 100 steam locomotives for standard-gauge lines.

196. The Sveti Vrach locomotive depot (Spring 1951) comprises a stone masonry section 50 by 18 meters in size with a twin-sloped roof. This section is crossed by two railway tracks. Plans have been drawn up for the construction of a second depot with a capacity for 50 locomotives. The Sveti Vrach depot houses 20 steam locomotives for standard-gauge lines.

197. The Gorna Dzhumaya locomotive depot (July 1951) constructed between 1938 and 1940 comprises two reinforced-concrete sections each approximately 50 by 9 meters in size, with saw-toothed roofs, with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 20 steam locomotives for standard-gauge lines.

198. The Dupnitsa locomotive depot (July 1951) constructed in 1942, comprises two reinforced-concrete sections, each 50 by 9 meters in size, with saw-toothed roofs, with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses between 20 and 25 steam locomotives for standard-gauge lines.

199. The Bobov Dol (N 42-21, E 23-00) locomotive depot (July 1951) constructed in 1942, comprises one reinforced-concrete section approximately 40 by 18 meters in size, with a saw-toothed roof, with nearly vertical glass-covered slopes. This section is crossed by two railway tracks. This depot houses between 10 and 15 steam locomotives for standard-gauge lines.

200. The Radomir locomotive depot (July 1951) comprises two reinforced-concrete sections, each approximately 40 by 9 meters in size, with saw-toothed roofs, with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 20 steam locomotives for standard-gauge lines.

201. The Batanovtsi (N 42-37, E 22-57) locomotive depot (July 1951) comprises two reinforced-concrete sections, each approximately 40 by 9 meters in size, with a vaulted roof with a 1-meter rise, and equipped with glass windows supported by reinforced-concrete "nervatures." Each section is crossed by a single track. This depot houses between 10 and 15 steam locomotives for standard-gauge lines.

202. The Pernik locomotive depot (July 1951) comprises the following sections:

- Four reinforced-concrete sections, each approximately 150 by 9 meters in size, with saw-toothed roofs, with nearly vertical glass-covered slopes; each section is crossed by a single track; these sections constructed between 1942 and 1944;

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b. Six reinforced-concrete sections, constructed between 1935 and 1937, each approximately 60 by 9 meters in size, with saw-toothed roofs, with nearly vertical glass-covered slopes; each section is crossed by a single track.

This depot houses between 80 and 100 steam locomotives for standard-gauge lines.

203. The Slivnitsa (N 42-51, E 23-01) locomotive depot (July 1951) constructed by the Germans in 1941 and 1942, comprises one stone masonry section, approximately 60 by 18 meters in size, with a twin-sloped roof; this section is crossed by two railway tracks. This depot houses between 15 and 20 steam locomotives for standard gauge lines.

204. The Dragoman (N 42-56, E 22-56) locomotive depot (July 1951) constructed between 1932 and 1934, comprises two reinforced-concrete sections, each approximately 60 by 9 meters in size, with saw-toothed roofs, with nearly vertical glass-covered slopes. Each section is crossed by a single track. This depot houses 20 steam locomotives for standard gauge lines.

205. The Lughene (N 42-02, E 24-00) locomotive depot (July 1951) comprises the following sections:

- a. One stone masonry section, 50 by 14 meters in size, with a twin-sloped roof; this section is crossed by two narrow-gauge (80 centimeters in width) tracks; and
- b. One section in masonry and wood, 35 by 14 meters in size, with a twin-sloped roof; this section is crossed by two narrow-gauge (80 centimeters in width) railway tracks.

This depot houses six railcars for narrow-gauge lines and five or six steam locomotives for narrow-gauge lines.

206. The Yakoruda (N 42-02, E 23-40) locomotive depot (July 1951) comprises one stone masonry section approximately 40 by 8 meters in size, with a twin-sloped roof; this section is crossed by a single narrow-gauge track. This depot houses five or six steam locomotives for narrow-gauge lines.

207. The Bansko (N 41-49, E 23-29) locomotive depot (July 1951) comprises the following sections:

- a. One masonry section, approximately 50 by 16 meters in size, with a twin-sloped roof; this section is crossed by two narrow-gauge tracks; and
- b. One masonry section, approximately 35 by 8 meters in size, with a twin-sloped roof; this section is crossed by a single track.

The Bansko depot houses five or six steam locomotives for narrow-gauge lines and three railcars for narrow-gauge lines.

208. The Gara Zakharna Fabrika locomotive depot (July 1951), in Sofia (see CS-4000c, map of Sofia, No. 92) comprises one reinforced-concrete building formerly a warehouse of a sugar refinery, approximately 150 by 30 meters in size, with a twin-sloped corrugated metal roof. This depot houses 30 steam locomotives for standard gauge lines.

209. The Plovdiv (Filipovo station) locomotive depot (July 1951) is an open air depot housing 10 steam locomotives for standard gauge lines, used on the Plovdiv-Karlovo and Plovdiv-Panagyurishte railway lines.

210. The Yambol locomotive depot (Spring 1951) is an open air depot which houses 10 steam locomotives for standard gauge lines.

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211. The Khumata (sic) locomotive depot (July 1951) located approximately 9 kilometers east of Cherven Bryag, is an open-air depot which houses 10 steam locomotives for standard gauge lines.

212. The Yasen (N 43-25, E 24-32) locomotive depot (July 1951) is an open air depot which houses between five and six steam locomotives for standard gauge lines. Plans are being drawn up for the construction of a masonry depot.

213. The Razgrad locomotive depot (Spring 1951) is an open air depot which houses 10 locomotives for standard gauge lines. Plans are being drawn up for the construction of a masonry depot with a capacity of 20 locomotives.

214. The Novi Pazar (N 43-21, E 27-12) locomotive depot (Spring 1951) is an open air depot which houses 15 steam locomotives for standard gauge lines.

215. The Caraomer (N 43-49, E 28-13) locomotive depot (Spring 1951) is an open air depot which houses 10 steam locomotives for standard gauge lines.

216. The Petrich locomotive depot (Spring 1951) is an open air depot which houses 15 steam locomotives for standard gauge lines.

217. The Iovkovo (N 43-47, E 28-07) locomotive depot (Spring 1951) is an open air depot which houses 10 steam locomotives for standard gauge lines.

218. The Vladaya (N 42-38, E 23-12) locomotive depot (July 1951) is an open air depot which houses 15 steam locomotives for standard gauge lines.

219. The Gorna Banya (N 42-41, E 23-13) locomotive depot (Spring 1951) is an open air depot which houses 15 steam locomotives for standard gauge lines.

220. The Troyan locomotive depot (July 1951) is an open air depot which houses 10 steam locomotives for standard gauge lines. Plans have been drawn up for the construction of a covered locomotive depot which is to be completed in 1952 and will comprise two reinforced-concrete sections each approximately 60 by 18 meters in size, with saw-toothed roofs, with nearly vertical glass-covered slopes. Each section will be crossed by two tracks.

Railcar Depots (July 1951)

221. The railcar depot in Sofia [ ] houses approximately 20 railcars for standard gauge tracks for the use of the various ministries. The depot consists of a large reinforced-concrete building approximately 200 by 30 meters in size with a twin-sloped, tile roof; this building is crossed by three railway tracks and was constructed about 1925. 25X1

Coaling and Watering Facilities (July 1951)

222. Generally speaking coaling and watering facilities are located at the locomotive depots listed above. Coaling is usually done by means of cranes and, at a few secondary stations, by rudimentary equipment. Only two or three chief stations, such as Sofia and Plovdiv, are equipped with modern coaling and watering facilities. The water towers used by the Bulgarian railway lines have a capacity of 25, 50, 200, and 500 cubic meters.

Marshalling Yards

223. The Sofia main railway station marshalling yard (July 1951) includes 20 to 25 railway tracks extending for a distance of approximately 2.5 kilometers. 25X1

224. The Gara Zakharna Fabrika marshalling yard in Sofia [ ] includes 20 railway tracks extending for a distance of approximately 1.5 kilometers.

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225. The Poduene (Sofia) marshalling yard (July 1951) includes 40 railway tracks which extend for a distance of approximately 6 kilometers.

226. The Plovdiv south station marshalling yard (July 1951) includes thirty railway tracks which extend for a distance of approximately 3 kilometers.

227. The Plovdiv (Gara Filipovo) marshalling yard (July 1951) includes 20 railway tracks extending for a distance of approximately 2 kilometers.

228. The Stara Zagora marshalling yard (July 1951) includes 20 railway tracks extending for a distance of 2 kilometers.

229. The Karnobat marshalling yard (July 1951) includes 10 railway tracks extending for a distance of approximately 1 kilometer.

230. The Burgas marshalling yard (Spring 1951) includes 25 railway tracks extending for a distance of approximately 4 kilometers.

231. The Dimitrovgrad marshalling yard (July 1951) includes 18 railway tracks extending for a distance of approximately 3 kilometers.

232. The Dupnitsa marshalling yard (July 1951) includes 12 railway tracks extending for a distance of approximately 1.5 kilometers.

233. The Saran'ovo marshalling yard (July 1951) includes 20 railway tracks extending for a distance of approximately 4 kilometers.

234. The Svoge marshalling yard (July 1951) includes 10 railway tracks extending for a distance of 1.5 kilometers.

235. The Mezdra marshalling yard (July 1951) includes 20 railway tracks extending for a distance of approximately 3 kilometers.

236. The Cherven Byrag marshalling yard (Spring 1951) includes 15 railway tracks extending for a distance of approximately 2 kilometers.

237. The Pleven (south station) marshalling yard (Spring 1951) includes 25 railway tracks extending for a distance of approximately 3 kilometers.

238. The Pleven (north station) marshalling yard (Spring 1951) includes 12 railway tracks extending for a distance of approximately 2 kilometers.

239. The Levski marshalling yard (Spring 1951) includes 10 railway tracks extending for a distance of approximately 2 kilometers.

240. The Gorna Oryakhovitsa marshalling yard (Spring 1951) includes 40 railway tracks extending for a distance of approximately 4 kilometers.

241. The Shumen marshalling yard (Spring 1951) includes 20 railway tracks extending for a distance of approximately 2.5 kilometers.

242. The Kaspichan (N 43-18, E 27-11) marshalling yard (Spring 1951) includes 12 railway tracks extending for a distance of approximately 2 kilometers.

243. The Iovkovo marshalling yard (Spring 1951) includes 8 railway tracks extending for a distance of approximately 1.5 kilometers.

244. The Varna marshalling yard (Spring 1951) includes 20 to 25 railway tracks extending for a distance of approximately 3 kilometers.

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245. The Ruse marshalling yard (Autumn 1950) includes 20 railway tracks extending for a distance of approximately 3 kilometers.

246. The Boychinovtsi marshalling yard (July 1951) includes 10 railway tracks extending for a distance of approximately 1.5 kilometers.

247. The Brusartsyi marshalling yard (Spring 1951) includes 8 railway tracks extending for a distance of approximately 1.5 kilometers.

248. The Lom marshalling yard (Spring 1951) includes six railway tracks extending for a distance of approximately 2 kilometers.

249. The Vidin marshalling yard (Spring 1951) includes six railway tracks extending for a distance of approximately 1.5 kilometers.

250. The Karlovo marshalling yard (July 1951) includes 10 railway tracks extending for a distance of approximately 1 kilometer.

251. The Dúbovo marshalling yard (July 1951) includes 10 railway tracks extending for a distance of approximately 1 kilometer.

252. The Kazanlük marshalling yard (July 1951) includes 10 railway tracks extending for a distance of approximately 2 kilometers.

253. The Luhene marshalling yard (Spring 1951) includes 10 railway tracks extending for a distance of approximately 1.5 kilometers.

254. The Yakoruda marshalling yard (July 1951) includes 8 railway tracks extending for a distance of approximately 1 kilometer.

Signals, Switches, and Safety Devices (July 1951)

255. The switches of the stations of Sofia and Plovdiv are worked electrically either entirely or in part.

25X1

Electrification of the Bulgarian Railways

256. It is planned to electrify the entire Bulgarian railway network by 1960. To this purpose a large number of hydroelectric and thermoelectric stations are being built. As of July 1951, high tension lines had been erected along the Sofia-Mezdra railway line. As of that same date, no additional work had been done toward the electrification of any other Bulgarian railway lines.

25X1

Comment: In checking the routes of the Bulgarian railway lines, the location of railway bridges, tunnels, cuttings, etc., and the correct spellings of place names, we have made use of the Deutsche Heereskarte 1:100,000 Map Series, the ANS 1:250,000 Map Series, and the 1952 Bulgarian Railways Timetable. Generally speaking, the distances given in this report must be considered as being only approximate.

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The following legend refers to the map of Bulgarian railway lines which is included as Appendix A on pages 92, 93, and 94.

LEGEND

- Standard-Gauge Lines
- Standard-Gauge Lines
- Standard-Gauge Lines (under construction)
- Narrow-Gauge Lines (under construction)
- Standard-Gauge Lines (planned)

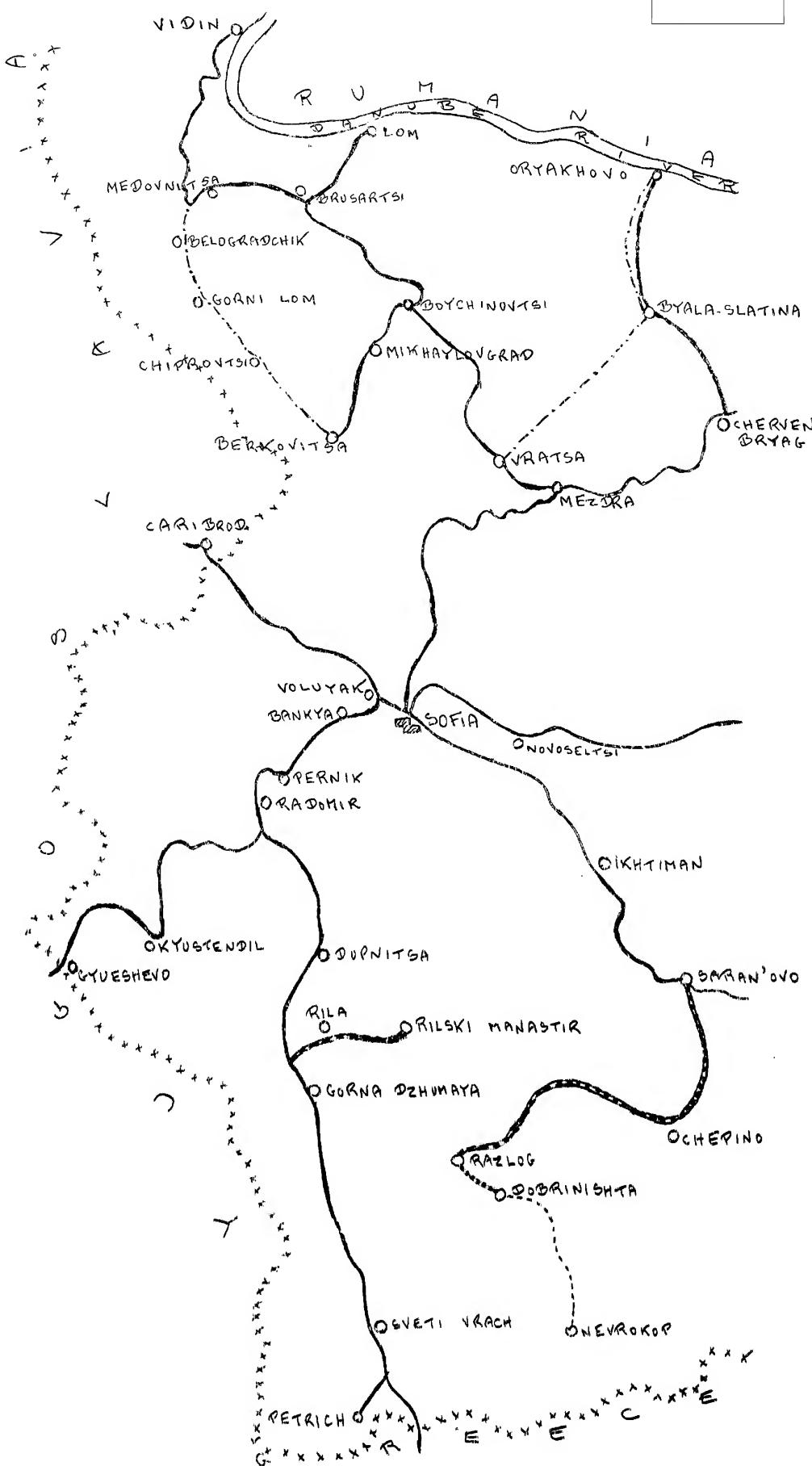
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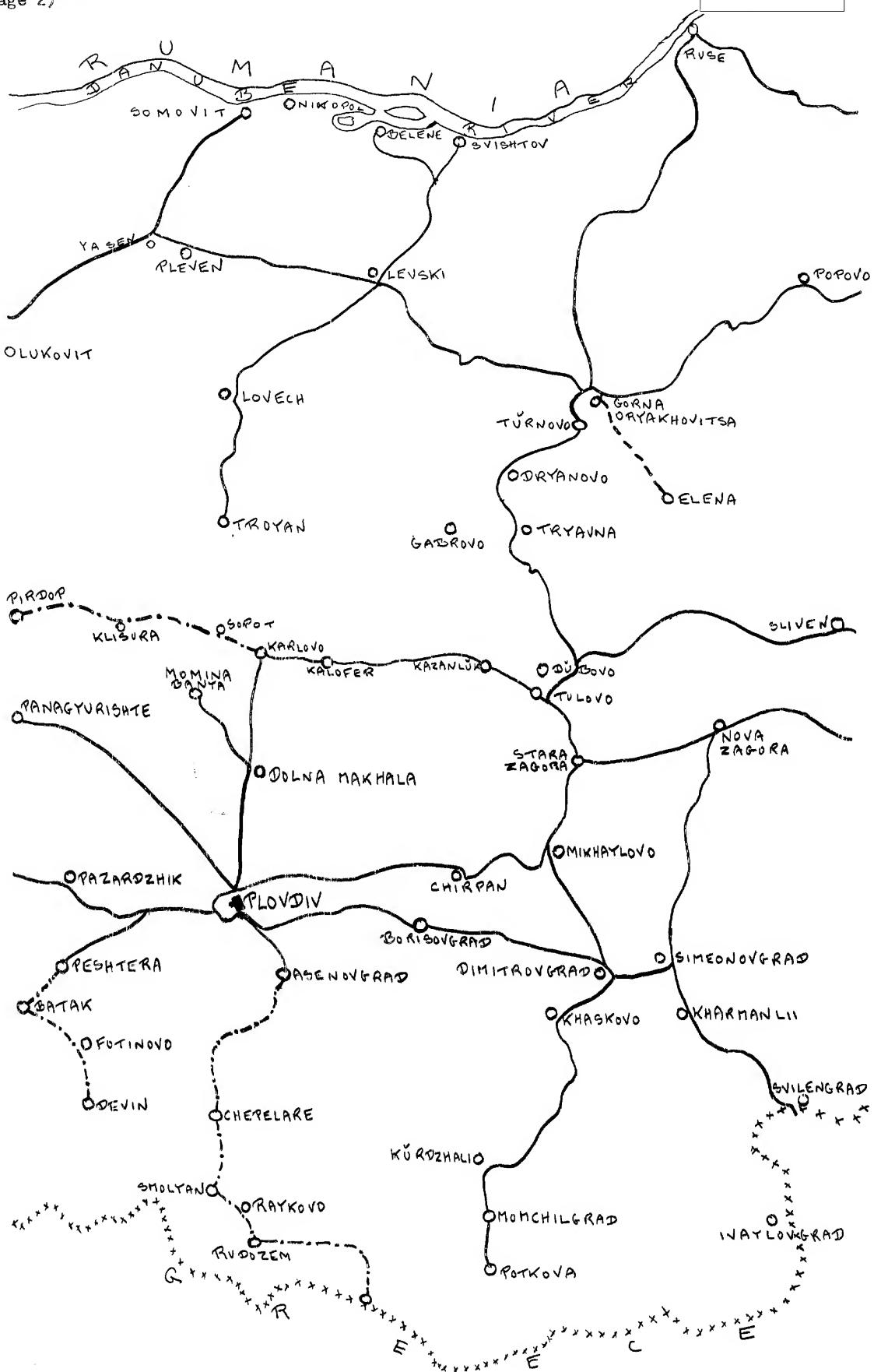
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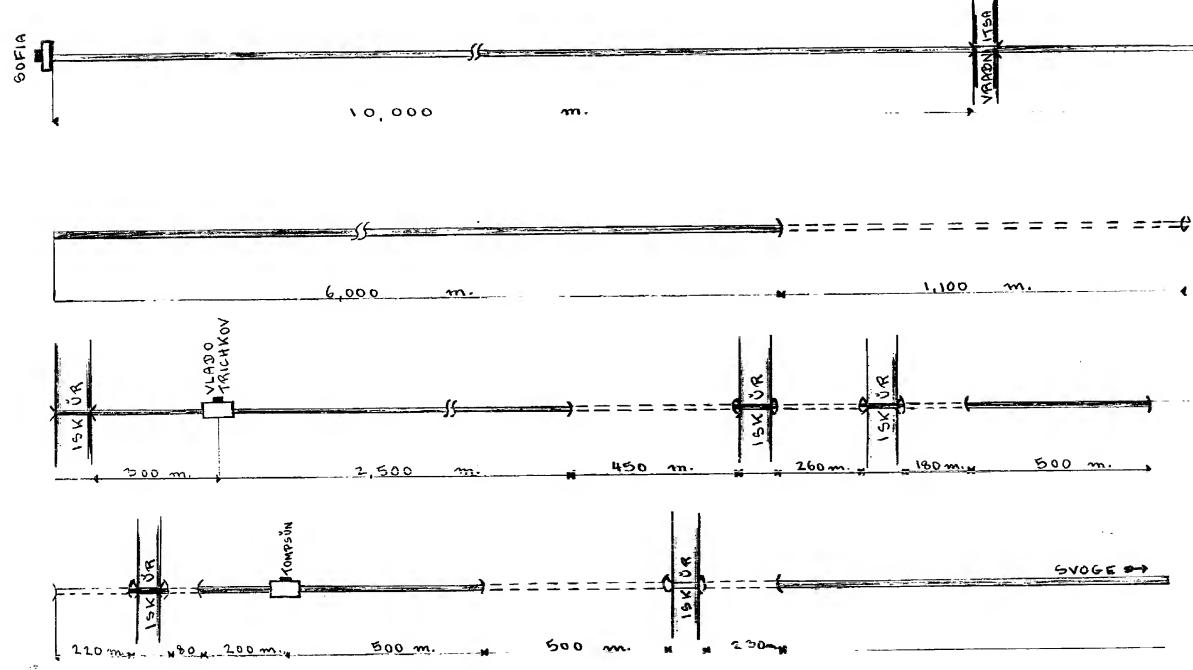
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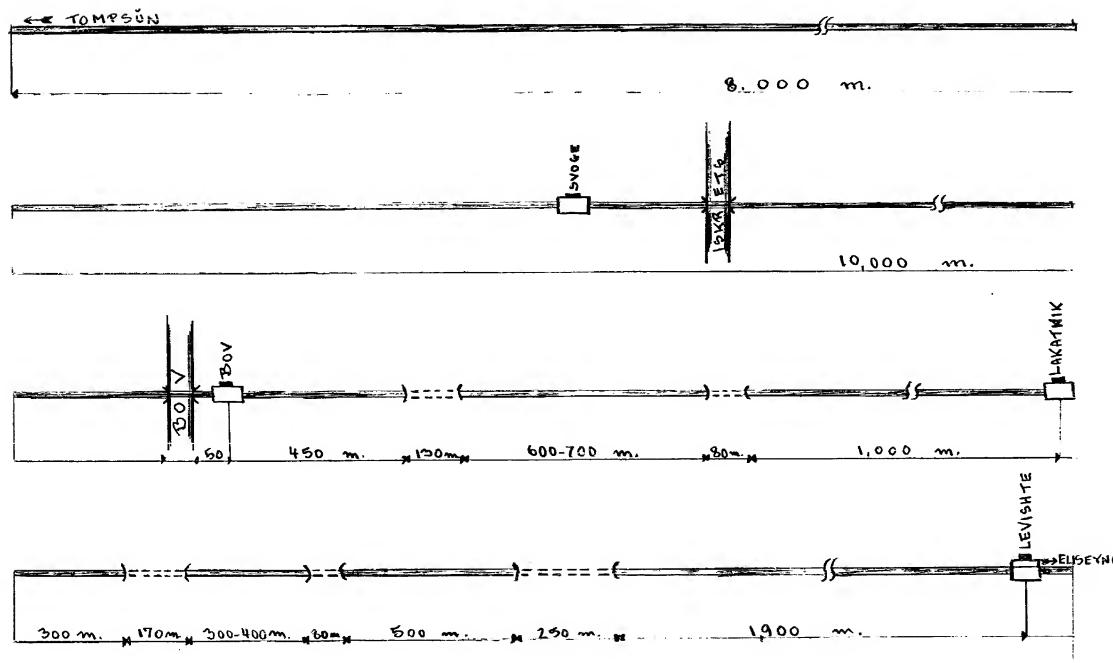
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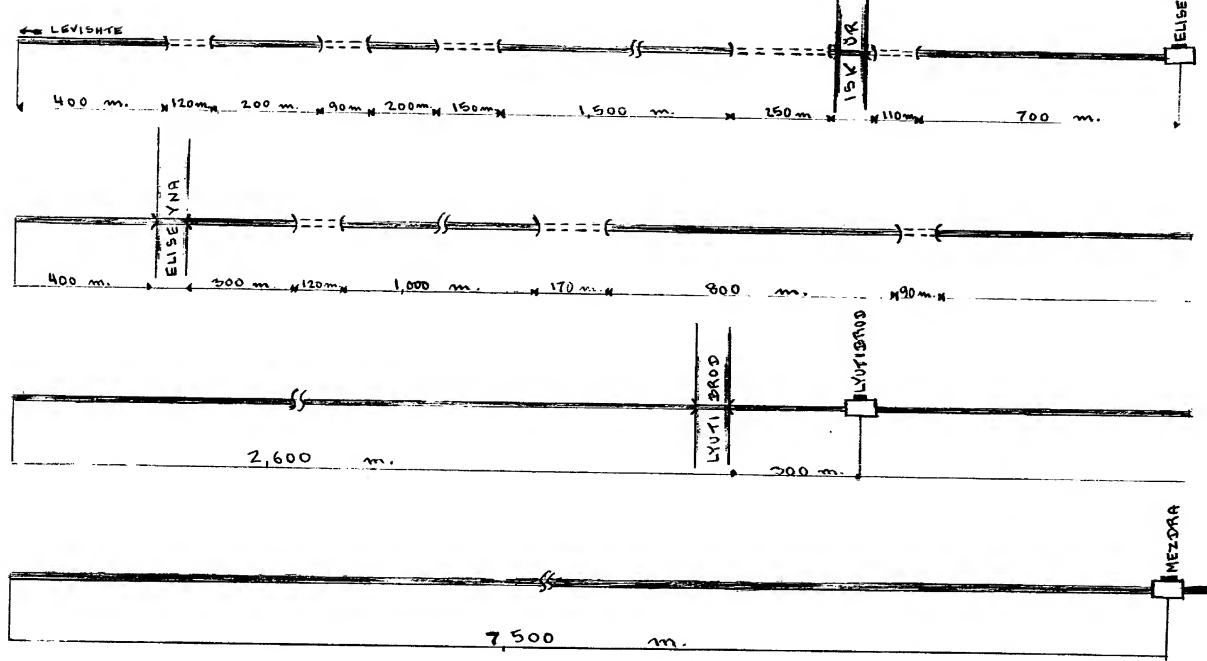
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Bridges and Tunnels on the Sofia-Mezdra Railway Line

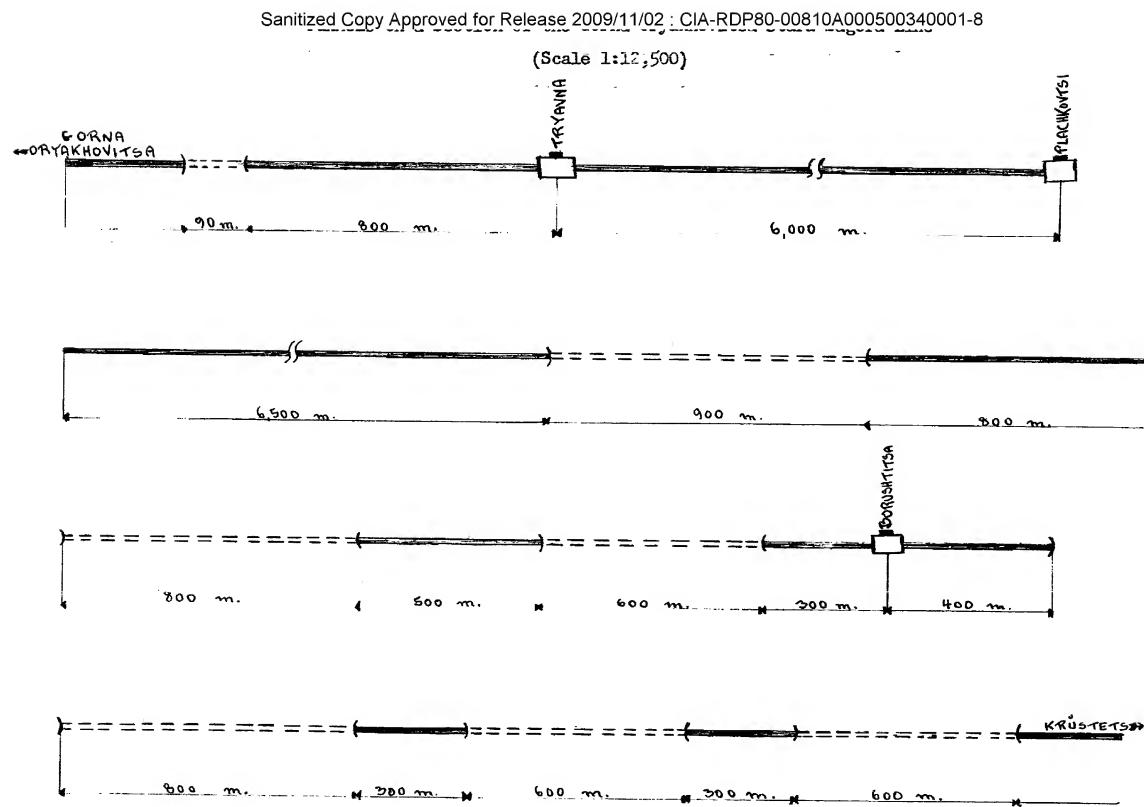
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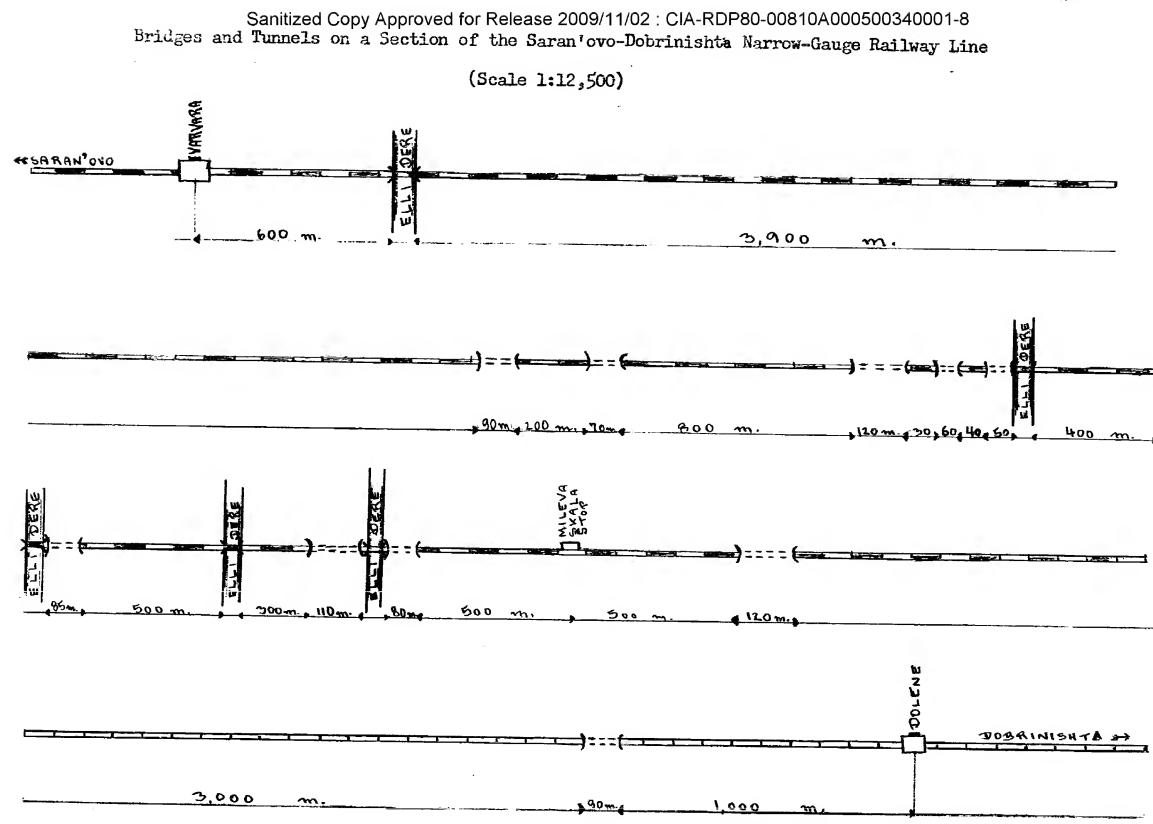
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Distances given are only approximate





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